The IRS Research Bulletin

1991

** Previously titled: Trends Analyses and Related Statistics*

Research Bulletin
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Department of Treasury
Internal Revenue Service
Publication 1500 (9/91)
Catalog Number 11546J

The IRS Research Bulletin

Publication 1500 — 1991

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Suggested Citation:
United States Department of Treasury
Internal Revenue Service
The IRS Research Bulletin
Publication 1500 (9/91)
Washington D.C.: GPO, 1991

FOREWORD

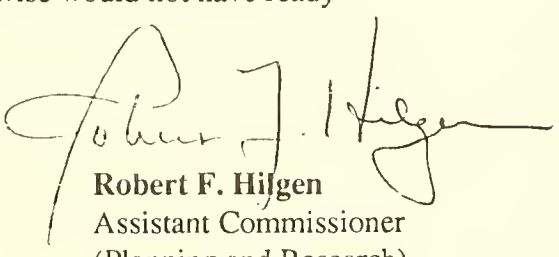
This is the first edition of this publication to be titled ***The IRS Research Bulletin*** (prior editions were called ***Trend Analyses and Related Statistics***). The new title more accurately reflects the expanded role of this publication. In addition to highlighting trends that could impact tax administration, this document now serves as a major vehicle for communicating recent tax administration research to IRS executives and to the general public.

The articles in the 1991 edition of ***The IRS Research Bulletin*** reflect some of the fundamental changes that are occurring in tax administration during the 1990s. In addition to "Tax Systems Modernization" — the Service's comprehensive effort to modernize its computer and telecommunications systems — the Commissioner has emphasized four other overriding forces of change at the IRS: a commitment to providing quality service to taxpayers; adherence to the highest standards of professional and ethical conduct; addressing the diversity in our workforce; and enhancing voluntary compliance with the tax laws, while minimizing taxpayer burden and the cost to the government.

Four articles in the publication address the subject of providing quality service to taxpayers. Three articles present statistics on the quality of service IRS is providing in the areas of Examination, Collection, and the Problem Resolution Program. A fourth article reports on the accuracy of IRS projections of the number of tax returns to be filed.

An additional five articles discuss aspects of enhancing voluntary compliance with tax laws, including analysis of specific "market segments" of taxpayers. These articles cover compliance with new laws on the child care credit and the reporting of child care income; the reasons for invalid TINs on information returns; employer compliance in reporting employment taxes, by type of industry; tax amnesty programs in different states; and the demographic characteristics of taxpayers who file their returns electronically. A final article addresses the issue of managing human resources in times of rapid technological change.

In conjunction with the fundamental changes taking place within IRS, one particular goal of this publication remains paramount — to generate quality information on significant trends, research and operational developments in tax administration, and to convey this information to those who otherwise would not have ready access to it.



Robert F. Hilgen
Assistant Commissioner
(Planning and Research)

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Section I *Trends '91*

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Demographic and Health Trends

- The U.S. population grew by 9.8 percent in the 1980s, according to the 1990 Census. Nevada posted the greatest percentage growth (50.4 percent) while California had the largest numerical growth (6,091,459) in the 1980-1990 period.
(Bureau of the Census, CB91-07)

- The U.S. population continues to become more urbanized. Census data indicate that the metropolitan population in 1990 constituted 77.5 percent of the U.S. total compared with 76.2 percent in 1980. 50.2 percent of the population lives in metropolitan areas of over 1 million. Four new areas reached this status in 1990: Charlotte, North Carolina; Salt Lake City, Utah; Orlando, Florida; and Rochester, New York. Metropolitan areas (over 1,000,000 in population) with the most rapid growth were all in the sun belt: Phoenix, San Diego, Dallas-Fort Worth, Atlanta, Tampa-St. Petersburg, Los Angeles, Orlando, and Sacramento. All of these areas grew by over 25 percent in the 1980-1990 period.
(Bureau of Census, 1991)

- The homeless population in the U.S. has been estimated at 228,621 by the Census Bureau. However, this count has been described as low by many experts. A 1989 estimate by the Urban Institute puts the homeless population at 600,000.
(Wall Street Journal, April 15, 1991)

Demographic and Health Trends

- A recent study of the U.S. and Canadian health care systems reveals that U.S. consumers are spending more for a lower level of service than their Canadian counterparts. Advocates of health care reform consider Canada, where most health care expenditures are publicly funded, to be an important model. Per capita spending on health is 38 percent higher in the U.S. than in Canada. In addition, the study found that U.S. citizens get only about 75 percent of the services per capita that Canadians do, a "striking refutation of the hypothesis that lower spending in Canada is achieved by providing fewer services." One of the major differences between the U.S. and Canada is the greater proportion of specialists in the U.S. The researchers estimated that there are about 40 percent more procedure-oriented physicians per capita in the U.S., but that Canadian physicians do about 20 percent more procedures per capita. Higher physicians fees in the U.S. are largely accounted for by billing expenses, malpractice insurance and other administrative costs.
  (Wall Street Journal, September 27, 1990)

- Satisfaction with the nation's health care system is on the wane. The number who are very satisfied with the quality of their care declined from 44 percent in 1988 to 35 percent in 1990. The proportion who are very satisfied with their payment arrangements has declined from 40 percent in 1973 to 31 percent in 1988 to 26 percent in 1990. Eighty-two percent of Americans have some type of health insurance. This is down from 89 percent in 1973 and largely attributable to a reduction in employment-related health insurance. For the first time, a majority of Americans (50 percent) favor a national medical insurance plan versus 37 percent who believe that the current private health insurance system should be maintained. Prior surveys indicated that about 5 in 10 favored the present system.
  (Roper Reports, Summary of 90-9)

- Don't worry, drink coffee. That's the message of a recent study of the relationship of heart disease and stroke to coffee consumption. The study of 40,000 men from age 40 to 75 found that the risk of heart disease among those who drank up to four cups a day was no higher than for those who drank no coffee. Ninety percent of these subjects didn't smoke cigarettes; this may explain the divergence of results from previous studies which have indicated that coffee, in combination with smoking, contributes to heart disease.
  (Business Week, October 22, 1990)

Demographic and Health Trends

- The average life expectancy of Americans, which has increased to 75 years from 47 years at the beginning of the century, may be approaching a maximum of 85 years. Barring major advances in the development and use of life-extending technologies, or the alteration of human aging at the molecular level, the period of rapid increases in life expectancy in developing nations may have come to an end.
  (Wall Street Journal, November 2, 1990)

- Federal health officials estimate that one million Americans are currently infected with the acquired immune deficiency syndrome (AIDS) virus. Of these, an estimated 165,000 to 215,000 will die during 1991-1993.
  (The Washington Post, January 25, 1991)

- Evidence from a variety of sources indicates that cocaine use is down, but that heroine use may be on the rise. A stimulant epidemic (in this case cocaine) is normally followed by increased sedative use (such as heroine), according to psychiatrist Herbert Kleber. In an earlier era, the heroin explosion of the later 1960s closely followed a wave of methamphetamine (speed). The decline in cocaine use is indicated by a decline in cocaine-related emergency room admissions. Between 1985 and 1989 these admissions rose almost five-fold, overtaking heroin, which led the way in medical damage for almost two decades. But admissions have declined since the last quarter of 1989.
  (The Economist, September 8, 1990)

Economic and Industrial Trends

- Does taxing big business and the wealthy promote social goals? Fewer people think so today than in 1976. For big business, 32 percent think that higher taxes would promote social goals, down 10 percent from 1976. Higher taxes on the wealthy are thought to promote social goals by 28 percent, down 12 points from 1976. Using taxes to discourage certain activities in society does appear to have support. Raising taxes on liquor ranks first (54 percent), followed by cigarettes (51 percent) and beer (48 percent).
  (Roper Reports, Summary of 90-6)

- Confidence in federal government agencies has generally declined from 1989 to 1990. Fifty-six percent have confidence in "most" federal departments, down six points from 1989 and the lowest since 1987 when the Iran-Contra scandal was unfolding. The only agency viewed more favorably in 1990 than 1989 is the Environmental Protection Agency (EPA). It is viewed favorably by 67 percent of the public, up six points from last year. The IRS is viewed favorably by 43 percent of those interviewed, which is down four percent from 1989.
  (Roper Reports, Summary of 90-8)

- Anyone who has a pension, works for a large company, or has investments has been affected by the contributions of three financial economists from the U.S — Harry Markowitz, William Sharpe and Merton Miller — who have been awarded the Nobel Prize in economics. Mr. Markowitz contradicted the time-honored practice of emphasizing individual securities by showing that portfolios, or groupings of stocks, offer far superior returns for a given level of risk, than do individual securities. Mr. Sharpe showed that refusing to diversify exposed one to additional risk with no prospect for financial reward. Mr. Miller proved that the value of a business firm was not affected by its mix of debt and equity or the level of dividends paid out by the firm. These conclusions contradicted the conventional wisdom of corporate finance and led to a much more sophisticated understanding of financial theory.
  (Wall Street Journal, October 17, 1990 and The Washington Post, October 24, 1990)

Economic and Industrial Trends

- The number of women-owned and black-owned businesses in the U.S. is increasing faster than the number of businesses overall. The Census Bureau indicates that the number of women-owned businesses increased from 2.6 million in 1982 to 4.1 million in 1987, a 57 percent increase. For black-owned businesses, the increase was 38 percent for the same time period. The rate of growth for all businesses was 14 percent during the same time period. The average level of receipts for women-owned firms with paid employees was $362,000 in 1987. For black-owned firms, this figure was $200,000. This compares to $490,000 for businesses overall.
  (U.S. Department of Commerce News, CB90-172 and CB90-163)

- Two states will be testing use of credit cards for payments—Missouri for car-related fees and delinquent taxes and California for delinquent income tax payments. In four test cities, Missouri will accept credit cards for car and driver licenses, car sales tax and delinquent taxes of any kind. There will be a $2 service charge for the transaction. California will provide a credit card option for a random sample of 10,000 people who are delinquent in their income tax payments.
  (Wall Street Journal, October 3, 1990)

- The state of Montana has made it easier for taxpayers to make payment by credit card. Its 1990 tax package included vouchers for paying state income tax by credit card. Montana has previously accepted credit card payments for delinquent taxes.
  (Wall Street Journal, February 13, 1991)

Economic and Industrial Trends

- More states are trying out electronic filing of individual tax returns. New Mexico has increased the number of preparers involved in its program. Michigan is accepting tax year 1990 returns at 12 of its district offices. Minnesota accepts returns from nine outside transmitters. Maryland is accepting electronically filed returns. Illinois and Oregon have started pilot projects for electronic filing. And South Carolina and the IRS are participating in a pilot program where federal and state returns are submitted jointly to the IRS, which in turn forwards the state returns to South Carolina.
(Wall Street Journal, February 13, 1991)

- Consumers continue to resist paying bills electronically. Only 21 percent of Americans like the idea of paying bills electronically, up two percent from 1984. Resistance may be due to a reluctance to lose the "float" between when checks are written and cashed by the payers bank. Sixteen percent of respondents indicated that their banks provide an electronic bill-paying service and seventeen percent liked the idea of giving bank account numbers to merchants for the direct collection of payments.
(Roper Reports, Summary of 90-5)

- The proportion of a family's budget that is spent on food has undergone a long-term decline. Consumer Expenditure Survey data indicate that food and alcohol as a percent of total expenditures has declined from 43 percent in 1901 to 19.4 in 1989. The proportion of a family's expenditures attributable to transportation has increased from 8.5 percent in the 1934-1936 period to 25.7 percent today. This is primarily due to increased automobile ownership and operating costs. The share of consumer expenditure accounted for by shelter has fluctuated over time from 17.7 percent in 1934-1936 to 10.6 percent in 1950 to 20.2 percent in 1989.
(Monthly Labor Review, March 1990)

Economic and Industrial Trends

- The highest wage metropolitan areas in 1989 were Bridgeport-Stamford-Norwalk-Danbury, Connecticut, with an average annual pay level of $32,021. Other high wage metropolitan areas are New York, New York ($31,621), San Jose, California ($30,656), and Anchorage, Alaska ($29,973). According to the Bureau of Labor Statistics, the four lowest wage metropolitan areas are McAllen-Edinburg-Mission, Texas ($13,785), Jacksonville, North Carolina ($13,980), Laredo, Texas ($14,833), and Brownsville-Harlingen, Texas ($14,907).
  (Bureau of Labor Statistics News, USDL 90-484)

- For adults under age 30, the homeownership rate has dropped to 35 percent. This is down from 44 percent in 1984 and 53 percent in 1977. The decline has been greater in the under 30 age group than in other segments of the population.
  (Roper Reports, Summary of 90-9)

- The equity that Americans have in their homes dropped sharply in 1990 as homeowners borrowed at an unprecedented pace against their properties. The fastest growing part of this debt is home equity lines of credit which now total more than $100 billion and are most commonly used to pay for consumer purchases.
  (The Washington Post, March 28, 1991)

Economic and Industrial Trends

- Aquaculture, the cultivation of seafood and plants in ponds, tanks and coastal-water pens, is expanding rapidly. Growth in the U.S. has been at between 20 percent to 25 percent in recent years and at a 10 percent rate worldwide. U. S. catfish production has soared to 360 million pounds in the latest 12 months from one million pounds annually in the 1960s.
(Wall Street Journal, September 27, 1990)

- Leasing of computer software is becoming more popular. While less than two percent of the software sales are accounted for by leases, the business is growing at two or three times the 20 percent annual rate of the overall software industry. Software users are attracted to leasing because it frees cash for other purposes. Leasing is also a good arrangement for the software company—it receives the full license price for its product—and the risk is borne by the leasing intermediary and the bank that finances the lease. The accounting treatment of leases is not a settled matter—the Financial Accounting Standards Board has no rules for this arrangement.
(Business Week September 17, 1990)

- The use of supercomputers is expanding rapidly as the price for time-sharing falls and the machines gain acceptance in simulating new products and processes. The lowest price for supercomputer time-sharing has fallen 90 percent since 1986, to $500 per hour. New processes for making glass, plastics or synthetic fibers may take years in the laboratory, but can be simulated with a supercomputer in a matter of weeks. Their use is well-established in the automobile industry for such projects as redesigning engine cooling systems and development of new models. One limit to the use of supercomputers in the U.S. is the lack of scientists and engineers trained in their use.
(Business Week, October 8, 1990)

Economic and Industrial Trends

- Bartering by businesses has emerged from its 'underground' status and continues to grow. The International Reciprocal Trade Association estimates that $750 million in products and services were traded on barter exchanges in 1990. This is double the amount traded just five years ago. A much larger amount is bartered directly between corporations and does not flow through organized exchanges. Companies use bartering to increase sales, move surplus inventory, make use of excess capacity and even as a means of resolving bad debts.
(Wall Street Journal, November 26, 1990)

International Economic Trends

- Europeans foresee an era of prosperity, in which they will emerge as a new world leader. Their economic integration will be accompanied by a single currency in Europe by the end of the century, a boom in capital spending (led by Germany), much greater political confidence, and a combined population in twenty years of 700 million.
(Wall Street Journal, July 5, 1990)

- A new climate for foreign businesses has emerged in Latin America. The Bush Administration is pursuing its Enterprise for the Americas Initiative, which proposes a free-trade zone that would include virtually the entire Western Hemisphere. For now, the U.S. is concentrating on a free-trade agreement with Canada and Mexico, expected to be signed by the end of 1992.
(Fortune, April 8, 1991)

- Much of Mexico's recent economic resurgence can be attributed to the success of *maquiladoras*, or industrial parks, that have been established along its border with the U.S. over the past 25 years. Foreigners can own 100 percent of a *maquila* (a plant in a *maquiladora*). Goods produced in the *maquila* are subject to American duty only on the value added in Mexico and enter Mexico duty-free. *Maquliadoras* now account for 80 percent of Mexico's manufactured exports and 40 percent of its total exports to the U.S. Small and medium sized firms in the U.S. have benefited from the arrangement in which they can utilize lower cost labor just across the border. The *maquiladora* plays a broader role than industrial parks in the U.S. Beyond building a plant to the client's specifications and maintaining physical facilities, it recruits, trains and pays all of the Mexicans in the workforce.
(Wall Street Journal, October 4, 1990)

- Mexican immigrants are becoming more and more likely to stay in the United States. Economic factors in the U.S. and Mexico and the 1986 immigration act have encouraged this shift from the lone, male agricultural worker to a more socially-mixed, year-round, urbanized immigrant community. Immigration experts estimate that no more than 10 to 15 percent of Mexicans in California, Texas and Arizona now work in agriculture. The increasing number of women and children crossing the border also indicate that entire families are resettling in the U.S.
(New York Times, January 21, 1991)

International Economic Trends

- Capital markets, once tightly controlled by Wall Street, are going "global." As the economies of Europe and Asia have expanded, the share of U.S. firms in stock and bond markets has declined from 80 percent in 1960 to 30 percent today. Another factor in the erosion of Wall Street's position is the proliferation of communication and computer technology which provides the basis for automated, round-the-world, round-the-clock trading. Pension fund managers and other large investors can now trade securities directly through on-line services that match buyers and sellers. These systems provide a substitute for the traditional securities markets based in New York. Many large companies are also finding that they can raise capital directly rather than use traditional investment services.
  (Business Week, November 5, 1990 and Wall Street Journal, October 4, 1990)

- Foreign automobile manufacturers are opening and expanding design centers in the U.S. in order to integrate their design, engineering, and manufacturing functions in America. As a result, additional designers and engineers are being hired. This strategy is a response to increased sales, the desire to keep up with American consumer trends, and the pressure exerted on Japanese automakers by Congress and U.S. trade officials to use more American-made components.
  (Automotive News, November 26, 1990)

International Economic Trends

- Overseas trading in futures and options is booming, and is fast cutting into U.S. dominance of these markets. The trend started in the late 1970s with the onset of high inflation and highly volatile commodity prices. In the first eight months of 1990, overseas trading of options and futures equaled 64 percent of U.S. trading volume, up from 24 percent in all of 1986. *(Wall Street Journal, October 15, 1990)*

- Foreign banks keep penetrating the American financial sector, despite the fact that they already control 22.6 percent of U.S. banking assets, hold 28.5 percent of its business loans, and do business with about 75 percent of large companies nationwide. *(North American International Business, April 1991)*

Technology Trends

- Slightly over a third of Americans used a personal computer at work (19 percent), at home (7 percent) or both (8 percent) in 1989. What did they use their PCs for? Word processing (64 percent) and game playing (49 percent) are the top two applications for all types of users. Three other applications were done by at least a third of PC users: accessing databases for news, doing office work at home, and using them as a learning devise for youngsters.
(Roper Reports, Summary of 90-2)

- Drivers in California can now take a written exam and apply for a license using a computerized self-service system. Using a touch screen computer, the motorist responds to instructions in either English or Spanish. The computer then checks the records, collects a fee, administers and scores a test, and issues a report. Under this experiment only the eye test and photo need to be done at the motor vehicle bureau.
(Business Week, September 24, 1990)

- Researchers at the University of Chicago have developed a solar collector that generates more energy than the sun itself. Sunlight from a 16-inch telescopic mirror is focused into a sapphire cone that generates 72 watts of energy per square millimeter versus 63 watts per square millimeter on the surface of the sun. Such solar furnaces could drive lasers or fuse new and stronger composite material.
(Business Week, September 17, 1990)

- U.S. companies were expected to hook up 3.8 million personal computers in small office computer networks in 1990, an increase of 48 percent over 1989. Networks, which are becoming the lifeblood of the modern corporation, also pose immense technical and management problems. A large corporation often has a bewildering array of mainframe computers, minicomputers, microcomputers and terminals. When networked, each brand of equipment reports to a separate control computer with its own codes and protocols. A lack of industry standards for hardware and communication have contributed to this confusion. Faced with the network jungle, corporations must choose between developing their own networking capabilities or "outsourcing"—turning their networking over to high technology specialists. Outsourcing often saves companies up to 30 percent on their data and communication costs. One computer consulting firms expects network outsourcing revenues to double from $5.9 billion level in 1989 to $12.8 billion in 1994.
(Business Week, October 8, 1990)

Technology Trends

- Within the next decade, pocket telephones are expected to come into widespread use at a lower cost than cellular phones. Wireless phone networks are expected to make major inroads into the business of local phone companies and cellular carriers. Regulation will be a major force in shaping the use of pocket phones in the U.S. Regulatory agencies will have to determine how to carve up the radio spectrum that's still available to communications carriers. *(Wall Street Journal, October 30,1990)*

- While warm superconductors have received considerable publicity since their discovery in 1986, traditional low temperature devices are emerging as the leader in applications. For over 75 years, scientists have thought that temperatures close to absolute zero (-459.67°F) were necessary to eliminate resistance in electrical circuits. The complexity and expense of the liquid-helium systems that are necessary to cool supercomputers to near absolute zero have limited their development. But now, Japanese, U.S. and German companies are developing a broad range of applications. The first major use of cold superconductivity is the magnetic resonance imaging (MRI) machines than scan the structures of the brain. Electronic companies are developing circuits using low temperature technology. These devices promise to move data up to 100 times faster than conventional semiconductors while consuming a tiny fraction of the power. *(Business Week, November 26, 1990)*

Technology Trends

- Scientists have taken a step in understanding "low temperature" superconductors (those that operate at around minus 300° F). Groups at the Los Alamos National Laboratory and International Business Machines have explained the structure of thin ceramic films that have been the only material that has proven able to carry high amounts of current. Large numbers of electrons are able to pass through superconductors with minimal resistance, researchers believe, because they encounter no magnetic fields within the superconducting material.
(The Washington Post, March 29, 1991)

- The need for greater speed in computer circuitry is motivating the move from silicon to gallium arsenide (GaAs) and other alternatives. Chips developed by Nippon Telegraph and Telephone (NTT) and Fujitsu using GaAs operate at up to ten times the speed of the fastest silicon chips. Fijitsu's development of GaAs technology is actually a fallback development for the more sophisticated low temperature Josephson chips, which can be turned on in 1.5 picoseconds (trillionths of a second) compared to 100 picoseconds for the fastest silicon chips. A major advantage of the niobium-based Josephson chips and GaAs chips is that they consume a negligible amount of power and give off very little heat. GaAs applications are expected in supercomputers, telecommunication switches and test equipment. The market, which was practically nonexistent in 1985, is expected to exceed $1 billion annually by 1994. But silicon is not expected to disappear. Its use will continue as the "workhorse" of computing while GaAs and low temperature chips take on more sophisticated tasks.
(Business Week, November 19, 1990 and The Economist, July 21, 1990)

Workforce Trends

- Multiple jobholding increased in the 1980s. Data from a Department of Labor survey indicate that more than 7.2 million persons held two or more jobs in May 1989. The multiple jobholding rate—the percent of all employed persons with two or more jobs—reached 6.2 percent in 1989, up from 5.4 percent in 1985 and 4.9 percent in 1980. The 6.2 percent rate of multiple jobholding is the highest in more than three decades. Women have assumed a more significant role in multiple jobholding. In 1970, they composed 15 percent of this group. This grew to 33 percent in 1980 and 43 percent in 1989. The most frequently cited reason for holding a second job is to meet regular household expenses. *(Monthly Labor Review, July 1990)*

- The difference between men's and women's earnings continues to be reduced. Median weekly earnings of women employees in full-time wage and salary jobs were $355 in the fourth quarter of 1990, rising to 72.4 percent of men's earnings. This is 8.5 percent higher than a decade earlier. *(U.S. Department of Labor. Bureau of Labor Statistics, Report 801, Fourth Quarter 1990)*

- Many social service and safety workers are "underpaid." Compared to 1984, more people now believe that the following occupations are underpaid: policemen (65 percent, up 9 points), hospital attendants (64 percent, up 3 points), teachers (63 percent, up 5 points), and nurses (60 percent, up 5 points). Over half (57 percent) also say secretaries—new to the list—aren't paid enough. "Overpaid" occupations, according to the survey, include professional athletes, lawyers, corporate presidents, doctors, Congressmen, TV news anchor people, and senior level managers in government. *(Roper Reports, Summary of 90-6)*

Workforce Trends

- The state of California has just concluded a two year project in which about 150 employees worked at home or in satellite government offices near their homes. According to David M. Fleming, director of the California program, "employees are much more productive. They have a feeling of being trusted by their management and by consequence they have become more motivated than if they were in the main office, where their boss sees them." The Office of Personnel Management has initiated the Federal Flexible Workplace Project, also known as Flexiplace. Up to 3,000 employees are expected to take part in the program. It is also hoped that Flexiplace will help in recruitment and retention of employees. One of the challenges of at-home work arrangements is for managers to evaluate results, not just the day-to-day activities of workers.
(The Washington Post, March 13, 1990)

- Regarding the importance of work versus leisure, 41 percent of Americans surveyed now say that leisure is more important than work, which is given a higher priority by 36 percent of respondents. This reflects a switch from earlier opinions. As recently as 1985, 46 percent held the view that work is more important versus 33 percent saying that leisure time is more important. This change may be due to widespread declines in job satisfaction among working people.
(Roper Reports, Summary of 89-10, February 1990)

- A survey by Northwestern National Life Insurance Company on employee burnout found 34 percent of American workers seriously considered leaving their jobs last year while 33 percent expected to burn out soon. The most common sources of workplace stress are too much work and working with the public. In addition, major changes in the work environment are likely to increase the chance of employee burnout. Early identification of stress-related problems and employer support can help reduce the effects of stress on workers.
(The Washington Post, May 12, 1991)

Workforce Trends

- Corporations are paying attention to quality products and services; however the rhetoric of quality has often not been followed through with empowerment of lower level employees. A Gallup survey indicates that while approximately two-thirds of the employees surveyed said they have been asked to become involved in workplace decision making, only 14 percent said they had been given the power to make those decisions. John Knappenberger, director of quality for the automotive sector of TRW states that quality programs have often been directed at the stars in the workforce, ignoring the majority of competent employees who "are the meat and potatoes of the business." He also says that the emphasis has been on employees who deal directly with customers. "The next battlefield is the people in the bowels of the organization, the people you don't see every day. They too have to become focused on customers." Resistance to empowerment of workers is common among supervisors who are used to giving orders. A cultural change within corporations is a prerequisite to the establishment of a quality approach.
  (The Washington Post, September 30, 1990)

- As many as two million U.S. workers are leased, up from fewer than 100,000 in 1980, and the number of small companies contracting with leasing operations has jumped well into the thousands. Employee leasing operations have increased in number to more than 1,500, from fewer than 100 five years ago. Many companies prefer to lease employees because it relieves them of the overhead costs involved with employee benefits and employment taxes. Leasing firms may also qualify for large employer insurance discounts not available to small employers. The leasing area has also attracted some unscrupulous operators. By misrepresenting health or disability insurance coverage, leasing companies are able to offer workers at a lower cost than that of their legitimate competitors.
  (Wall Street Journal, March 19, 1991)

Workforce Trends

- Recent data on self-employment indicate that racial minorities are less likely to be self-employed than white workers. About 3 percent of black workers—390,000 in all—were working on their own in 1989. The proportion for Hispanics was higher—about 6 percent, but still below that of white workers, of whom 8 percent were self-employed in 1989. For white workers, 9 percent of men and 5.8 percent of women were self-employed. For Blacks, self-employment is at 4.3 percent for men and 2.3 percent for women. For Hispanics, 6.9 percent of men and 4.5 percent of women were self-employed. These estimates do not include persons whose businesses are incorporated. Since these persons should be employees of their corporation, they are classified as wage and salary workers.
  (U.S. Department of Labor, Bureau of Labor Statistics, Report 798, Third Quarter, 1990)

- The number of current workers in pension plans appears to be on the decline. Participation in private pension plans roughly doubled during the 1950 through 1975 period to 52 percent of year-round employees. This is largely attributable to productivity growth and strength of unions in collective bargaining. Since 1979, the share of workers who are earning credits toward a pension has declined from about half the labor force to 46.1 percent in 1983 and 44.2 percent in 1988. Reasons for this decline include the decline in U.S. productivity growth, the growth of service businesses which are less financially able than large manufacturers to support pension plans, and expanding regulations and paperwork that have made pension plans too complicated and expensive for many small employers.
  (The Washington Post, December 25, 1990)

- A private study of pension plans indicates that one out of four companies had at least one underfunded plan in 1989.
  (Wall Street Journal, November 27, 1990)

Section II *Research Articles*

The views expressed in the articles contained in this publication represent the opinions and conclusions of the authors. Such views do not necessarily represent the position of the Internal Revenue Service.

Electronic Filing—Who's Participating and Who Isn't

By Bryan L. Musselman

In 1991, nearly seven percent of Americans who filed an individual tax return did so electronically. Electronic filers typically file Form 1040A, are less than 45 years old, have a household income of less than $30,000, and/or live in the South. The motivating factor for electronic filers is getting a quick refund. Those most unlikely to be electronic filers are over the age of 60, living in the West, and filing Form 1040. They are not electronically filing their tax returns primarily because they are not aware of the option or the cost is too high. Survey results suggest that if the IRS can get refunds issued in five business days, and if transmitters reduce the cost to less than $20, millions of additional taxpayers would be enticed to file electronically.

Introduction

In 1986, electronic filing began as a test program in three metropolitan areas in Ohio, North Carolina, and Arizona. In that first year, 25,000 returns were filed electronically from five tax preparers/transmitters. Today, electronic filing is big business, generating hundreds of millions of dollars in revenue for the myriad of businesses that have decided to offer the service of electronic filing of tax returns. In 1991, 7.5 million returns were filed from a variety of sources—from "mom-and-pop" tax preparers to national accounting firms to convenience stores.

After just two years as a nationwide program, nearly seven percent of all individual returns and over nine percent of the refund returns are being filed electronically. But who is filing them? And who isn't filing them, and more importantly, why? This article explores the answers to these questions, and offers some suggestions for increasing electronic filing.

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The IRS had the Roper Organization ask a sample of approximately 2,000 men and women whether they filed their 1990 tax return electronically, and if not, why not.[1] Among those in the Roper survey who knew how their returns were filed, 8.7 percent indicated that they had filed electronically. Nationally, 6.6 percent of individual taxpayers actually filed their 1990 tax return electronically.

Age of Electronic Filers

Table 1 displays the participation rates of electronic filers by four age groupings. As can be seen, electronic filing is most appealing to younger filers. Nearly 75 percent of the returns filed electronically came from those less than age 45, even though they comprised only 58 percent of the sample. The greatest level of participation comes from those age 30 to 44, where 11.9 percent indicated they filed electronically. In contrast to this, Americans age 60 and over are generally not participating in electronic filing—only 2.5 percent filed electronically, compared to 8.7 percent overall in the sample (excluding those who indicated they "didn't know" if they filed electronically).

Table 1
Participation in Electronic Filing by Age of Taxpayer

Age of Taxpayer	Participation Rates	Percent of Total
18-29	10.2%	30.2%
30-44	11.9	44.4
45-59	8.2	19.1
60	2.5	6.2
Total	8.7%	100.0%

Source: Roper Report 91-5, Table 60.

Education of Electronic Filers

Table 2 displays the electronic filing participation rates for filers by their level of education. Since the percentage of participation at each level of education is close to the average of 8.7 percent for the sample, education does not seem to be a factor in predicting who will file electronically.

Table 2
Participation in Electronic Filing By Education Level of Taxpayer

Education Level	Participation Rates	Percent of Total
Non-H.S. Graduate	8.0%	19.9%
H.S. Graduate	9.3	41.0
Some College	7.7	19.9
College Graduate	9.0	19.3
Total	8.7%	100.0%

Source: Roper Report 91-5, Table 60.

Household Income of Electronic Filers

Table 3 displays the electronic filing participation rates by various levels of household income. Electronic filing is very popular for those whose household income is less than $30,000. A separate analysis of all tax year 1989 filers reveals that while more than 32 percent of all filers had an adjusted gross income (AGI) greater than $30,000, less than 23 percent of electronic filers had an AGI of more than $30,000.[2]

Table 3
Participation in Electronic Filing By Income Level of Taxpayer

Household Income	Participation Rate	Percent of Total
Under $15,000	10.6%	26.6%
$15,000 under $30,000	10.5	35.0
$30,000 under $50,000	6.9	22.4
$50,000 and Over	8.0	16.1
Total	8.7%	100.0%

Source: Roper Report 91-5, Table 60.

Since transmitters of electronically filed returns generally charge a fee ranging from $20 to $40 for filing electronically, it is surprising that electronic filing is popular among those who can least afford the service. However, numerous factors are contributing to this situation. First, most electronic transmitters also offer a "refund anticipation loan" (RAL), which is a bank loan using the refund as collateral. The refund is reduced by the loan fee, the electronic filing fee, and if applicable, the preparation fee, and the taxpayer receives the RAL in a few days from the bank. Upon receipt of the IRS refund, the taxpayer pays the entire amount to the bank which made the RAL. Although this option generally costs approximately $60 (the loan fee typically costs around $30 and the electronic filing fee another $20 to $40), it requires no up-front cash, and thus may be the only way many people can afford tax preparation services.

Second, the temptation to have one's money in a matter of days instead of weeks may be a powerful incentive for many, especially considering that the average refund for electronic returns filed in 1990 was approximately $1,240. This is 36 percent higher than the total average refund of $911 for all individual taxpayers who filed returns in 1990.[3]

Finally, the lower percentage of higher income filers who file electronically may be a function of the types of preparers higher income taxpayers use for tax preparation services. It may be that the higher income taxpayers are not given the option to file electronically by their preparer, simply because they do not offer the service.

Market Size of Area Where Electronic Filers Reside

The market size of the area where the electronic filer resides details whether filers tend to be from urban areas versus rural areas.[4] Counties comprising the 25 largest metropolitan areas are designated as "A" markets. "B" markets consist of all other counties that either individually have a population of 150,000 or more, or form a part of a metropolitan area having an aggregate population of 150,000 or more. "C" markets are all other counties having an individual population of 35,000 or more, or forming part of a metropolitan area having a population of 35,000 or more. "D" markets are all remaining counties in the country.

Table 4 displays the participation rates of electronic filers across the four market areas. Interestingly, the lowest level of participation comes from the "A" market areas, whereas the highest level of participation comes from the "B" market areas.

Table 4
Market Size of Electronic Filers' Residence Location

Market Size	Participation Rates	Percent of Total
A	6.4%	31.5%
B	11.6	39.5
C	8.7	15.4
D	9.4	13.6
Total	8.7%	100.0%

Source: Roper Report 91-5, Table 60.

Table 5
Geographic Location of Electronic Filers

Geographic Area	Participation Rates	Percent of Total
Northeast	8.3%	21.1%
Midwest	9.6	28.0
South	10.1	37.9
West	5.5	13.0
Total	8.7%	100.0%

Source: Roper Report 91-5, Table 60.

Geographic Location of Electronic Filers

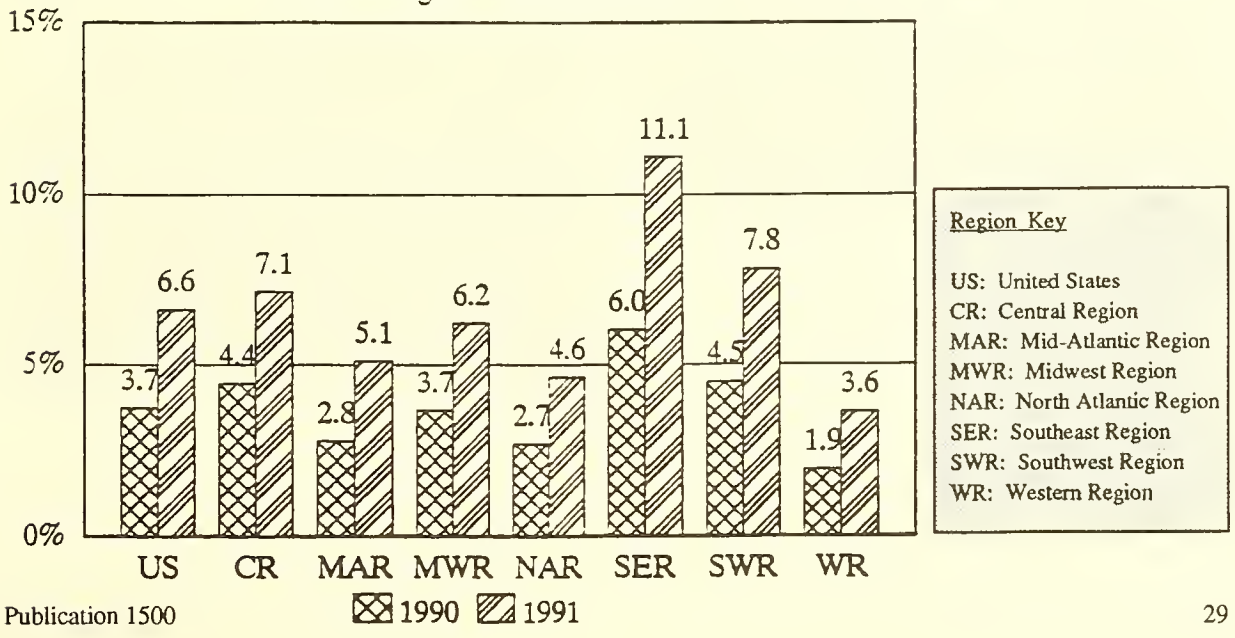
The location of taxpayers who file electronically also varies widely by region of the country, as detailed in Table 5. Examining participation rates by IRS district shows unmistakably that filers in the South have the highest rate of filing electronically. In fact, among returns filed in 1991, the top nine districts in terms of participation rates were all from the South, led by IRS' South Carolina district, where over 14 percent of the individual returns were electronically filed.

In contrast, the West had the lowest rate of electronic filing. The five lowest districts in terms of participation rates were all in the West. The IRS' San Francisco district office had the lowest participation rate—just 2.3 percent of the individual returns filed from San Francisco were filed electronically.

An analysis of the individual master file (IMF) to determine the location of electronic filers reveals a similar trend by IRS region. Graph 1 displays the actual electronic filing participation rates by IRS region for returns filed in 1990 and 1991. The Southeast region, which has the greatest participation rate, has three times the participation rate of the Western Region, which has the lowest rate.

One possible explanation for the lower participation rates in the West is that people in the West may not be as concerned if their refund arrives quickly. This is predicated by the fact that people who file at the Fresno Service Center (serving the San Francisco area, southern California, and Hawaii) file their refund returns in aggregate much later in the filing season than the rest of the country. For example, 52

Graph 1. Electronic Filing Participation Rates by IRS Region
Processing Years 1990 and 1991



percent of the tax year 1990 "refund" returns (which have been filed as of June 28th) were received by the ten IRS service centers as of March 15th.[5] However, for the Fresno Service Center, only 45 percent were received by March 15th.

A second possible explanation is that people in the West have a lower percentage of refund tax returns than the rest of the country. For tax year 1990, it is estimated that 72.2 percent of individual return filers will receive a refund nationwide, whereas only 70.2 percent of individual return filers who file at the Fresno Service Center will receive a refund.[6]

Form Type Eligibility of Electronic Filers

Currently, all forms filed electronically "look like" a Form 1040 to the IRS. In order to determine what type of form may have been filed if the return had been prepared as a paper return, an analysis was performed on the individual master file to determine what was the easiest type of form the electronic filer was eligible to file. Table 6 displays the percentage of returns filed electronically in 1990 and 1991 by form type eligibility.

Table 6
Percentage of Total Individual Returns Filed Electronically by Form Type Eligibility

	Processing Years	
Form Type Eligibility	1990	1991
1040EZ	18.5%	19.5%
1040A	55.6	59.9
1040	25.9	20.6

This distribution differs substantially from that for taxpayers in general. Table 7 displays the distribution of total returns filed if we correct the IMF distribution for electronic filing (i.e., remove estimated electronically filed Form 1040As and 1040EZs from the 1040 figures, and add them to Form 1040A and 1040EZ returns filed, respectively).

Table 7
Percentage of Total Individual Returns Filed by Form Type (Corrected for Electronic Filing)

	Processing Years	
Form Type	1990	1991
1040EZ	18.0%	16.5%
1040A	18.5	23.1
1040	63.6	60.4

The large shift to Form 1040A from Form 1040 in 1991 is due to a broadening of the eligibility of who may file Form 1040A. However, it is quite clear that the distribution of returns among electronic filers is heavily skewed towards those filing Form 1040A. Table 8 displays the participation rates by form type for the 1990 and 1991 processing years.[7] As can be seen from the table, 17.3 percent of Form 1040A returns were filed electronically in 1991, while only 2.3 percent of Form 1040 returns and 7.9 percent of Form 1040EZ returns were filed electronically during that period.

Table 8
Participation Rates by Estimated Form Type

	Processing Years	
Form Type	1990	1991
1040EZ	3.9%	7.9%
1040A	11.3	17.3
1040	1.5	2.3

Reasons for Not Filing Electronically

The Roper survey also asked people why they were not filing electronically. Table 9 details the responses by region. The biggest reason cited for not filing electronically is that people simply did not think of it or were not aware of the option. However, this varied widely by region of the country, with twice as many people in the West stating they were unaware of the option as people in the South. No attempt was made to determine the likelihood that those who were previously unaware of electronic filing would use this option in the future.

Table 9
Reasons for Not Filing Electronically
(Percentage of Total Non-Electronic Filers)

	U.S.	NE	MW	South	West
Didn't think of it/ Not aware of it	33.9%	38.1%	34.7%	23.9%	43.1%
Too expensive	14.4	12.3	16.4	15.1	13.3
Too inconvenient	3.9	1.9	3.8	4.6	4.7
Tax preparer did not have service	11.4	10.7	13.1	10.5	11.3
Didn't know how to go about it or who to ask	4.5	6.4	3.8	3.1	5.0
Heard others had problems with it	1.8	2.4	1.2	2.6	0.6
Did not expect refund	7.3	5.1	8.0	9.0	6.1
Other	17.4	15.7	16.0	21.1	15.2
Didn't file	10.4	12.0	8.9	12.5	7.7

Note: People could have more than one reason for not filing electronically.

Source: Roper Report 91-5, Table 60.

Price Sensitivity to Electronic Filing

In an attempt to see how price sensitive people were to electronic filing, we asked them two questions. First, we set up an optimistic scenario by asking how likely they would be to file their tax return electronically if the IRS could deposit their refund directly into their bank account within five business days. Sixteen percent said they would "definitely use it," 23 percent said they would "probably use it," 26 percent said they would "probably not use it," 19 percent said they would "definitely not use it," 5 percent said they "don't have a refund coming," and 12 percent said they "don't know."

A second question was then asked of the 39 percent who said they would "definitely use" electronic filing or would "probably use" electronic filing—"If there were a charge for this service, what is the most that you would be willing to pay?" Table 10 details the results.

Table 10
Percent of People Who Would "Definitely" or "Probably" Use Electronic Filing Given a Five-Day Refund

Maximum Willing to Pay	Percent	Cumulative %
$40 or more	3.4%	3.4%
Between $30 and $39	4.3	7.7
Between $20 and $29	15.0	22.7
Between $10 and $19	20.3	43.0
Less Than $10	25.8	68.8
Nothing	27.6	96.4
Don't Know	3.6	100.0

Source: Roper Report 91-5, Table 62.

As the table suggests, people in general are quite sensitive to the price they are willing to pay to get a fast refund. Currently, prices for electronic filing generally range from $20 to $40. This survey suggests that less than one-quarter of those willing to file electronically in return for a five-day refund would pay more than $20 for that service. If prices were in the $10 to $20 range, we would expect a doubling in the number of people who would opt to file electronically, given the assumption of a five-day refund.

As the market becomes saturated with firms offering electronic filing, more firms are trying to capture a larger share of the market by lowering fees. In addition, some tax preparation firms are now offering electronically filing at no charge for returns they prepare. The IRS is also pursuing cost-free ways for taxpayers to electronically file their return, including:

- *encouraging banks to offer electronic filing as a free service to customers;*
- *encouraging large employers to set up free employee electronic filing programs;*
- *providing electronic filing to taxpayers in selected IRS walk-in assistance facilities;*
- *testing alternative methods for filing returns, such as TeleFile, which will allow selected taxpayers to electronically file their 1040EZ return via telephone.*

Conclusion

So who is the "typical" electronic filer? The demographic characteristics of the typical electronic filer (in terms of both the greatest level of participation, and the greatest share of the total electronic filing population) are as follows: between 30 and 44 years old; high school graduate; located in "large" markets (although not in one of the 25 largest markets); living in the South; and filing Form 1040A.

However, a large majority of Americans are currently not electronic filers. The "hard-core" paper filers can be characterized as over the age of 60, living in one of the 25 largest urban areas, and living in the West. They also primarily file Form 1040.

The major reason cited by people as to why they do not electronically file their tax return is simply that they are not aware of the option. A smaller percentage feel the cost is too high. Nevertheless, only 39 percent of participants in the Roper sample said they would electronically file even if IRS could get them a refund in five business days. Currently, IRS says a refund will be issued in three weeks (or faster if the taxpayer opts to have the refund directly deposited into his/her savings or checking account).

Currently, most people who file electronically are doing so only to get their refunds in a matter of days instead of months. However, millions of other Americans are not interested in paying the extra $20 to $40 for the benefit of getting their refunds in less time than it currently takes. Responses to the Roper survey suggest that if the IRS can get refunds issued in five business days, and if transmitters reduce the cost to less than $20, millions of additional taxpayers would be enticed to file electronically. This strategy, combined with efforts to increase cost-free electronic filing, should allow for strong growth in electronically filed returns for many more years.

Notes and References

[1] ***Roper Reports 91-5*** (New York: The Roper Organization Inc., 1991), Table 60. The sample consisted of 1,984 men and women, 18 years and over, who were interviewed during the week ending April 20, 1991.

[2] Total tax year 1989 data—Internal Revenue Service, ***Statistics of Income Bulletin***, Vol. 10, No. 3 (3-91), p. 55. Electronic filing tax year 1989 data—unpublished.

[3] Internal Revenue Service, "Refund Comparison Report," unpublished data for returns filed 1/1/90 through 12/28/90.

[4] Market size is a definition created by the A.C. Nielsen Company for marketing purposes.

[5] Actually, 52 percent of "other-than-full-paid" returns were received by March 15th, which is made up of refund returns, returns filed that are balance due and the full amount due is not remitted at the time of filing, returns that have an overpayment, or returns which are received after the main filing season. Approximately 90 percent of all other-than-full-paid returns are refund returns. The same definition applies for the 45 percent received by the Fresno Service Center.

[6] Internal Revenue Service, ***Projections: Forms 1040, 1040A and 1040EZ by Full-Paid, Other-Than-Full-Paid, Refunds, and Electronically-Filed Returns***, Document 6187 (Rev. 5-91), pages 7 and 17.

[7] The denominator of each of the participation rate figures has been adjusted to correct for the distortion caused by counting all electronically filed returns as Form 1040.

Whatever Happened to Child Care in 1989?

By John A. Szilagyi

The Family Support Act of 1988 requires taxpayers claiming a child care credit (beginning with 1989 returns) to include the care provider's name, address and taxpayer identification number (TIN). On the surface, this appears to have had two contradictory results: a decrease of 31 percent in the number of child/dependent care credits claimed on individual income tax returns for tax year 1989, and an increase of almost 65 percent in the number of Schedules C (Profit or Loss from Business) reporting income received for providing child care services. The decreased credits resulted in more than $1.2 billion additional tax on 1989 returns, while the increased Schedules C produced about $343 million in additional income and self-employment taxes. The decrease in child care credits is particularly significant because it appears that a trend of increasing numbers of improper child care credits since 1979 has finally been reversed. The IRS is continuing to initiate projects to follow up on and monitor the claiming of the credit and the reporting of child care service income.

Introduction

The number and dollar value of child care credits claimed on tax returns has generally increased since it was first allowed on tax year 1976 returns. For 1975 and earlier years a deduction from income was allowed for child care expenses, limited to $2,400 for one child, $3,600 for two, and $4,800 for three or more. The deduction was phased out starting at adjusted gross income over $18,000 down to zero at $27,600. The 1976 credit equaled 20 percent of child care expenses, with expenses limited to $2,000 for one qualifying individual and $4,000 for two or more. There was no credit phase out based on income. Form 2441 (Credit for Child and Dependent Care Expenses) had to be filed to claim the credit, and it required the name, date of birth and relationship of the qualifying person, as well as the number of months and days such person lived with the taxpayer during the year. Form 2441 also required listing the names, addresses and relationships of the care providers, as well as the amount paid to each provider. In addition, if the dependent care was provided in the taxpayer's home, the care provider's Social Security Number (SSN) was required.

There were no significant changes in the child/dependent care credit until tax year 1982. For 1982 the amount of child care expenses on which a credit could be taken increased to $2,400 for one qualifying person and $4,800 for two or more. In addition, the credit rate was increased to 30 percent for those with adjusted gross income (AGI) under $10,000. The rate was reduced one percent for every $2,000 of higher AGI, until the rate decreased to 20 percent for all taxpayers with AGI of $28,000 or more. Another important change took place on the 1983 Form 2441 when the requirement to list qualifying person and care provider information was dropped to reduce taxpayer paperwork burden. No further substantive changes were made in the law or the Form 2441 until the Family Support Act of 1988.

Child Care Income and Noncompliance

Shortly after the Tax Reform Act of 1976 provided for a child/dependent care credit, effective with 1976 tax returns, IRS decided that a research study should be undertaken to measure compliance levels with the new credit, as well as with the reporting of child care service income by the care providers. The study included 5,050 taxpayers claiming the credit (payers) on their 1977 returns and 1,116 care providers receiving income (payees) from the payers. While the study (which was completed in 1981) found that the credit was adjusted in 62 percent of the examined cases, the more striking result was that 83 percent of the examined payee returns did not include any income from the payers.

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The study also disclosed that manually matching child care payer amounts to the care provider payees using only names and addresses was a complex, time-consuming, costly, and not very accurate process. Based on the study results, it was decided that an operational program to ensure correct income reporting would not be effective unless payers were required by law to obtain and report to the IRS the care provider payee's TIN, as well as their name and address. Accordingly, a legislative proposal requiring child care payers to report on their tax returns the name, address and TIN of the care provider (payee) was first developed in 1981. The proposal was updated annually by the IRS and was forwarded to Treasury in 1986. As mentioned earlier, this proposal was enacted as part of the Family Support Act of 1988.

Reversal of a Trend

Table 1 illustrates a trend of a generally increasing number of returns with child care credits and the percent overstatement of the credit based on Taxpayer Compliance Measurement Program (TCMP) data. TCMP data are gathered by conducting thorough audits of a stratified sample of some 50,000 individual tax returns every three years. Results indicate that there was a significant increase in the noncompliance disclosed by TCMP on the 1985 tax returns (which did not require qualifying child/dependent information on Form 2441) compared to the 1982 tax returns which did require such information. The TCMP data in Table 1 indicate that about one-third of the child care credit dollars on 1985 returns should be disallowed, and on more than 22 percent of the returns, the credit would be disallowed in full.

The table also illustrates the dramatic reversal of this trend in child care credits with a decrease of about 2.7 million returns or 31 percent in tax year 1989, resulting in $1.26 billion additional revenue to the Treasury in 1990. Apparently the primary factor causing this reversal was the requirement, enacted in 1988, that taxpayers claiming a child care credit (beginning with 1989 tax returns) must include the care provider's name, address and taxpayer identification number (TIN). This requirement caused many of the taxpayers who were improperly claiming the credit in the past (for example, the 22.3 percent that should be disallowed in full according to 1985 TCMP data) to stop taking the credit. Another substantial part of the decrease was probably due to some taxpayers forgoing the credit because their child care providers refused to give the taxpayer their SSN and told the taxpayers to take their children elsewhere if they wanted to claim the child care tax credit. These care providers obviously were receiving their income "off the books" and did not want to start reporting this income and paying their fair share of income and social security self-employment taxes.

Table 1

The Trend in Child Care Credits Claimed and Related Noncompliance Percentages (from TCMP)

Tax Year	Number Returns (000)	Percent Decreased Total	Percent Decreased To Zero	Amount Claimed ($millions)	Percent Decreased
1976	2,560	33.6	NA	420	21.9
1979	3,770	33.3	12.7	779	21.5
1982	5,093	37.3	13.0	1,469	22.5
1983	6,367			2,051	
1984	7,501			2,707	
1985	8,457	44.1	22.3	3,284	33.2
1986	8,820			3,606	
1987	8,456			3,398	
1988	8,737			3,709	
1989	6,020			2,449	

Another reason that would have caused a smaller part of the decrease was the change in the qualifying child's age limitation from under age 15 in 1988 to under age 13 in 1989. However, the general belief is that there were not that many 13 or 14 year olds receiving child care. One other possible reason for a small part of the decrease, particularly among higher income taxpayers, is the change by the Family Support Act of 1988, that the amount of expenses eligible for the child care credit must be reduced by the amount the taxpayer received tax-free under an employer-provided dependent care assistance program. This provision would prevent a taxpayer from taking a child care credit if the employer provided assistance/reimbursement was $2,400 or more for one child or $4,800 or more for two or more children. Preliminary data for employer reporting of such assistance on magnetic media Forms W-2 for 1989 indicate that it was provided to 517,104 employees. More detailed data as to the amounts of such assistance are not yet available.

Child Care Credit Decreases by Various Income Levels

Table 2 provides comparative child care credit data for 1988 and 1989 by size of adjusted gross income. The data indicate that the largest percentage decreases occurred in the under $10,000 and $10,000 to $19,999 income ranges, whereas the lowest percentage decreases took place in the $75,000 to $499,999 income groups.

Table 2
Comparison of Child Care Credits Claimed on TY 1988 and 1989 Returns By Adjusted Gross Income Levels
($ Amounts In Thousands)

Income Level	TY 1988	TY 1989	Decreased	Percent Decreased
Under $10,000				
Returns	154,977	64,468	90,509	58.4
Dollars	23,175	8,754	14,421	62.2
$10,000 - 19,999				
Returns	1,913,657	1,126,964	786,693	41.1
Dollars	805,845	457,258	348,588	43.3
$20,000 - 39,999				
Returns	3,482,624	2,276,078	1,206,546	34.6
Dollars	1,461,686	902,181	559,502	38.3
$40,000 - 74,999				
Returns	2,662,304	2,073,336	588,968	22.1
Dollars	1,159,408	855,746	303,662	26.2
$75,000 - 199,999				
Returns	486,828	449,541	37,287	7.7
Dollars	238,537	208,722	29,815	12.5
$200,000 - 499,999				
Returns	31,194	25,930	5,264	16.9
Dollars	16,918	13,636	3,282	19.4
$500,000 - 999,999				
Returns	4,247	3,208	1,039	24.5
Dollars	2,471	1,841	630	25.5
$1,000,000 - Over				
Returns	1,467	958	509	34.7
Dollars	883	581	302	34.2
Total				
Returns	8,737,298	6,020,483	2,716,815	31.1
Dollars	3,708,922	2,448,719	1,260,203	34.0

Income Reporting by Child Care Providers

At the same time that there was a 31 percent *decrease* from 1988 to 1989 in child care credits claimed, there was an apparently contradictory 64.7 percent *increase* in the total number of Form 1040, Schedules C (Profit or Loss from Business) filed reporting income from child care. There were 252,582 new first time filers of child care Schedules C. There were also some 82,661 taxpayers who stopped filing child care Schedule C, apparently because they were no longer performing child care services. The net effect was an increase of 169,243 child care Schedules C. The new first time filers of child care Schedules C reported more than $1.1 billion in net profit. The additional income tax and self-employment tax on this newly reported income for 1989 are about $343 million. It would again appear that the primary cause of this extraordinary increase (see Table 3 below) was the requirement that taxpayers claiming child care credits report to the IRS the name, address and TIN of their care providers. In comparison, the increase from 1987 to 1988 was only 7 percent or 17,384 more child care Schedules C. Knowing that their names and TINs were being reported to the IRS has apparently induced many care providers to begin reporting this income for 1989. The data in Table 3 indicate that almost half of the 1988 to 1989 increase (49 percent) was in the $1,000 to $5,000 gross receipts category.

Additional analysis of the first time child care Schedule C filers discloses that 56 percent filed 1989 tax returns with adjusted gross income of $25,000 or more. Ninety-four percent of these new Schedules C showed a net profit. About 72 percent showed a net profit of $2,000 or more on their Schedules C. Ten percent reported a net profit of $10,000 or more. This contrasts with the overall profit pattern for Schedules C. Only 76.7 percent of all Schedules C and 80.9 percent of all personal service Schedules C reported a net profit for tax year 1988, the latest data available.

Other Compliance Concerns in the Child Care Credit and Income Area

The data presented above indicate a substantial improvement in compliance as a result of the reporting requirements included in the Family Support Act. The IRS is considering several projects that will provide a more complete picture of these changes:

- *Match a sample of payer data to payee Schedule C data to determine whether the child care income was correctly reported in tax year 1989.*

Table 3
Number of Form 1040 Schedules C Reporting Income from Child Care Services (as of November 1990)

Gross Receipts	1987	1988	1989	Increase 1988 to 1989 Number	Percent
$0 - 999	41,583	41,410	84,152	42,742	103.2
$1,000 - 4,999	105,475	109,723	192,689	82,966	75.6
$5,000 - 9,999	52,000	56,935	79,133	22,198	39.0
$10,000 - 24,999	35,632	42,707	61,529	18,822	44.1
$25,000 - 49,999	5,528	6,505	8,909	2,404	37.0
$50,000 or more	4,011	4,333	4,444	111	2.6
Totals	244,229	261,613	430,856	169,243	64.7

Table 4
First Time 1989 Child Care Schedules C by Net Profit and Return AGI

Schedule C Net Profit	Adjusted Gross Income: Under $25,000	$25,000-$49,999	$50,000-$99,999	$100,000 and up	Total	Percent
Zero or Less	6,442	7,090	1,265	59	14,856	5.9
$1-999	8,871	9,538	1,325	49	19,783	7.8
$1,000-1,999	16,589	17,220	2,462	75	39,346	14.4
$2,000-3,499	25,118	26,526	3,780	119	55,543	22.0
$3,500-4,999	19,494	19,468	2,962	90	41,014	16.2
$5,000-7,499	17,220	19,247	3,117	102	39,686	15.7
$7,500-9,999	8,231	9,868	1,854	57	20,010	7.9
$10,000 and up	9,859	12,351	2,997	137	25,344	10.0
Total	110,824	121,308	19,762	688	252,582	100.0
Percent	43.9	48.0	7.8	0.3	100.0	

- *Contact taxpayers who claimed a child care credit in 1988, but did not do so in 1989, to determine why they did not do so in 1989. The possible explanations are: 1) the provider's unwillingness to provide their social security number; 2) technical changes which may have precluded some taxpayers from qualifying for the credit; 3) taxpayers no longer had a need for child care during tax year 1989; or 4) the taxpayer was invalidly claiming a credit in tax year 1988.*

- *Match employer-provided child care benefits reported on Form W-2 to the child care credit forms to ensure that taxpayers correctly reduce the credit base by the employer benefit amount.*

- *Contact those who did not list their care provider's TIN or their care provider's name, address or TIN in tax year 1989.*

- *Contact taxpayers who filed a Schedule C reporting child care income for the first time in 1989, to check if they should also file such a Schedule C for 1988. This will also serve as a test of a self-audit approach to examination of returns.*

These projects are expected to provide a good assessment of changes following the Family Support Act and provide a basis for operational programs that will further improve compliance in the child care area.

Conclusion

The new requirement on 1989 tax returns that taxpayers claiming a child care credit must provide the care provider's name, address and TIN has resulted in significant decreases in child care credits claimed and substantial increases in child care service income reported. This in turn has generated over $1.5 billion additional federal tax revenues from 1989 individual tax returns. Over 94 percent of the new child care Schedules C reported a net profit, which is substantially more than for Schedules C overall. Over a third of the child care Schedules C reported a profit of $5,000 or more.

The IRS is considering several new projects to learn more about these changes and related compliance levels. These projects will be continued and expanded as needed to ensure that improvements in compliance levels resulting from the care provider TIN requirement do not erode over time.

How Are We Doing? An Analysis of Projection Accuracy

By Russell R. Geiman, Bonnie L. Nichols, and Carolyn D. De Wilde

Examples of erroneous forecasts are so common that many are tempted to dismiss all projections as mere fiction. Yet, some forecasts are clearly more reliable than others. A more realistic view is to recognize that all forecasts come with some degree of imprecision, and to devise contingency plans to deal with a range of probable outcomes. Unfortunately, few forecasters, inside or outside government, offer their customers any objective assessment of their past projection accuracy from which to construct such a contingency approach. The following article is an attempt at such an assessment. It examines the accuracy of U.S. level return projections prepared by Research Division staff for use in IRS budget submissions. A key finding is that, on average, the error rates for past projections of grand total returns have been around one and two percent for both short term and long term forecasts—with no apparent bias toward either overprojection or underprojection. However, certain forecasts below this aggregate level have been noticeably less precise.

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Introduction

"He who lives by the crystal ball soon learns to eat ground glass."

—Unknown Genius

This proverbial wisdom reminds us that forecasts are indeed imperfect. The following report is an analysis summarizing the overall accuracy of the U.S. level fiscal year (FY) return projections prepared by Research Division staff.[1] Those return projections are formally published in Document 6292 and used in IRS budget submissions. The following "fiscal year track record" uses actual data for FYs 1984 through 1990 and evaluates the accuracy of the corresponding projections (by major return categories) contained in the 1983 through 1989 editions of Document 6292. The report presents various measures relative to the average net projection errors, the average percentage projection errors, and a measure which captures any biases toward repeated over- or underprojections.

These track record results are useful to forecasters since they identify any patterns in the overall error rates which might suggest underlying methodological biases. They can also be of value to customers who use these fiscal year projections in their planning processes. The results provide summary measures of the overall reliability of past projections and are therefore a useful gauge for determining quality. The track record also quantifies the relative size of past projection errors (by return type), thereby providing the likely ranges for future outcomes. This information can be helpful to customers in contingency planning efforts.

The following report begins with some general discussion about the causes of forecasting errors. The subsequent section explains the key measures used in the analysis and how these results are displayed in the accompanying tables. That section is followed by a summary of the main findings from this examination of our projection accuracy and a conclusion.

Why Errors Occur

Forecast errors occur for several reasons. Mistakes in the collection of data result in "bad data points." More importantly, forecasting methodologies typically assume an unchanging world. However, this assumption of a "static" environment is often disrupted by new tax laws, IRS administrative changes, and/or changes in taxpayer behavior. This is particularly the case for the forecasts being evaluated in this report. The 1980s were a unique period for tax administration, a period with sweeping changes in tax law and in IRS processes. Among these changes were the enactment of the Tax Reform Act of 1986, the introduction of electronic filing, and major revisions of several IRS forms, including who should (or could) file them.

Another source of forecast error is inherent in the basic approach most often used by Research Division staff, i.e., regression techniques. Regression is a statistical procedure that relates a dependent variable (in our case, the number of returns to be filed) to one or more independent (i.e., predictor) variables. However, many times the forecasters do not have access to certain kinds of data or otherwise exclude important independent variables from the model. Also, most independent variables available to the forecasters (such as total employment and gross national product) must first be projected themselves. Both these factors contribute further to the observed errors in the projected number of returns to be filed.

It is a basic human desire to know with certainty what the future holds. But this is an unattainable goal. Over the long run, most forecasts will inevitably miss the mark by some degree, although we may occasionally hit the bull's-eye. The goal of the forecaster is simply to minimize those errors over time, being neither consistently underprojected nor overprojected—thereby limiting his/her glass intake.

The Measures of Forecast Errors and Their Interpretation

There are three key measures of accuracy presented in the accompanying track record tables: the mean absolute error (MAE); the mean absolute percentage error (MAPE); and a count of the number of overprojections during a given period. The MAE is the average of the relevant "projection errors," regardless of whether the forecasts were overprojected or underprojected. The "projection error" is simply the projected volume minus the actual result. The MAPE is effectively the same as the MAE, except the projection errors are first expressed as percentages of the actual results prior to computing an average.

The MAE and MAPE measures are computed by specific "time horizons." The time horizon is determined by when the forecast was made and for what future year. For example, a forecast for FY 1990 made in 1988 would be part of the "two-year" accuracy computations (time horizon) as would be a forecast for FY 1986 made in 1984.

In addition, while the computation of the MAE and MAPE values is objective, their interpretation is largely subjective. For example, a MAE of 132,000 with an associated MAPE of 3.0 percent merely indicates that the series of forecasts in question missed the actual results by some 132,000 returns, on average, or about 3.0 percent per forecast. However, whether these results are "good" or "bad" depends upon one's use of the projections and the types of decisions one makes based on those forecasts. Thus, individual determinations will vary by customer.

The third measure of accuracy considered in this analysis is a count of the number of times the two-year forecasts overstated return filings. This measure considers the two-year forecasts made during 1983-1988 for actual return filings in 1985-1990 and can range between 0 and 6. Values of 2 or 3 are generally desirable since the goal of the forecaster is to neither consistently overestimate nor underestimate future return filings. Values of 0 or 1 indicate a strong bias to consistently underproject, while values of 5 or 6 indicate a clear tendency to overproject. A value of 4 is also desirable in the case of the "fall" forecasts in Table 1A which are based on six observations. However, it is an indication of some bias toward overprojection in the case of the "spring" forecasts in Table 1B, since these results are based on only five observations. The distinction between "fall" versus "spring" projections is discussed in more detail below.

Table Construction

The fiscal year projections are prepared twice a year and published in the spring and fall updates of IRS Document 6292. As a result, the following analysis evaluates the accuracy of the spring projections separately from the fall forecasts. Tables 1A and 2A (i.e., the "A series") relate to the estimates prepared during the fall cycles, while Tables 1B and 2B (the "B series") address the spring projections. The only difference between the spring and fall table construction is the "number of observations" or "n." This represents the relevant number of times projections were made for a given time horizon. In this analysis, spring results are based on one less observation than the corresponding results for the fall forecasts.[2]

Table 1A. Accuracy of Two-Year-Ahead Fall Forecasts

(FY projections made in the fall for returns to be filed two years ahead)

Type of Return	Most Recent Results: Comparison of FY 1990 Actuals versus the 8/88 Projections				1983–1988 Projections Two Years Ahead (n=6)		
	Actual 1990	Projected in August, 1988	Net Difference	Percent Difference	MAE	MAPE	Number of Over Projections
Grand Total	201,039,722	207,032,811	5,971,900	2.97%	3,384,257	1.75%	4
Primary Total	190,869,566	194,332,618	3,441,863	1.80	2,411,847	1.32	5
Individual, Total	112,492,218	112,777,114	284,896	0.25	999,377	0.96	5
Total 1040, A & EZ	112,201,046	112,547,404	346,358	0.31	1,033,171	0.99	5
Form 1040	74,388,634	74,026,393	(362,241)	-0.49	2,599,024	3.78	0
Form 1040A	18,379,774	18,732,181	352,407	1.92	3,003,729	16.34	6
Form 1040EZ	19,432,638	19,788,831	356,193	1.83	588,081	3.20	6
Other 1040	291,172	229,710	(61,462)	-21.11	54,217	23.55	1
Individual Estimated Tax	38,188,206	39,711,699	1,523,493	3.99	1,678,646	4.54	5
Fiduciary	2,701,134	2,524,922	(176,212)	-6.52	207,829	8.09	1
Partnership	1,741,163	1,995,666	254,503	14.62	103,915	5.85	5
Corporation	4,309,296	4,316,067	6,771	0.16	81,272	2.07	2
Estate Tax	58,629	56,120	(2,509)	-4.28	7,705	13.06	0
Gift Tax	146,014	113,561	(32,453)	-22.23	20,348	18.31	4
Employment Tax	28,893,287	29,317,223	423,936	1.47	423,542	1.50	4
Exempt Organization	483,856	547,256	63,400	13.10	40,015	8.02	4
Employee Plans	1,015,906	2,169,968	1,154,062	113.60	765,712	55.71	3
Excise	839,857	784,625	(55,232)	-6.58	166,261	15.35	2
Selected Supplemental	10,170,156	12,700,193	2,530,037	24.88	1,083,076	10.78	4
Form 1040X	1,329,176	2,383,381	1,054,205	79.31	615,199	40.02	6
Form 4868	5,279,270	6,683,594	1,404,324	26.60	669,527	13.14	3
Form 2688	1,580,232	1,620,067	39,835	2.52	163,054	11.30	1
Form 1120X	40,346	28,845	(11,501)	-28.51	31,315	96.43	4
Form 7004	1,910,136	1,958,113	47,977	2.51	68,610	3.93	1
Form 1041A	30,996	26,194	(4,802)	-15.49	4,934	18.22	0

Table 1B. Accuracy of Two-Year-Ahead Spring Forecasts

(FY projections made in the spring for returns to be filed two years ahead)

Type of Return	Most Recent Results: Comparison of FY 1990 Actuals versus the 4/88 Projections				1984–1988 Projections Two Years Ahead (n=5)		
	Actual 1990	Projected in April, 1988	Net Difference	Percent Difference	MAE	MAPE	Number of Over Projections
Grand Total	201,039,722	208,207,000	7,167,278	3.57%	3,615,594	1.84%	3
Primary Total	190,869,566	195,521,000	4,651,434	2.44	2,647,270	1.42	4
Individual, Total	112,492,218	113,980,000	1,487,782	1.32	1,402,231	1.32	4
Total 1040, A & EZ	112,201,046	113,748,000	1,546,954	1.38	1,444,194	1.36	4
Form 1040	74,388,634	74,042,000	(346,634)	-0.47	2,605,485	3.71	1
Form 1040A	18,379,774	18,889,000	509,226	2.77	3,596,548	19.43	5
Form 1040EZ	19,432,638	20,817,000	1,384,362	7.12	1,331,166	7.15	4
Other 1040	291,172	232,000	(59,172)	-20.32	62,035	25.66	0
Individual Estimated Tax	38,188,206	39,712,000	1,523,794	3.99	1,928,378	5.16	4
Fiduciary	2,701,134	2,495,000	(206,134)	-7.63	233,948	8.93	0
Partnership	1,741,163	1,992,000	250,837	14.41	124,769	7.01	4
Corporation	4,309,296	4,280,000	(29,296)	-0.68	114,381	2.97	0
Estate Tax	58,629	53,000	(5,629)	-9.60	11,959	20.71	0
Gift Tax	146,014	115,000	(31,014)	-21.24	28,208	25.36	3
Employment Tax	28,893,287	29,384,000	490,713	1.70	489,610	1.73	3
Exempt Organization	483,856	547,000	63,144	13.05	50,311	10.60	3
Employee Plans	1,015,906	2,170,000	1,154,094	113.60	995,560	62.00	2
Excise	839,857	778,000	(61,857)	-7.37	166,034	14.88	1
Selected Supplemental	10,170,156	12,686,000	2,515,844	24.74	1,081,317	10.60	3
Form 1040X	1,329,176	2,383,000	1,053,824	79.28	737,149	48.51	5
Form 4868	5,279,270	6,669,000	1,389,730	26.32	683,080	13.17	2
Form 2688	1,580,232	1,623,000	42,768	2.71	166,609	11.42	1
Form 1120X	40,346	27,000	(13,346)	-33.08	22,698	68.61	3
Form 7004	1,910,136	1,958,000	47,864	2.51	78,108	4.41	1
Form 1041A	30,996	26,000	(4,996)	-16.12	5,558	19.89	0

Table 2A. Accuracy of Fall Projections for Various Time Horizons

(FY projections made in the fall for returns to be filed one through four years ahead).

Type of Return	Mean Absolute Error				Mean Absolute Percent Error			
	One Yr. Ahead n=7	Two Yrs. Ahead n=6	Three Yrs. Ahead n=5	Four Yrs. Ahead n=4	One Yr. Ahead n=7	Two Yrs. Ahead n=6	Three Yrs. Ahead n=5	Four Yrs. Ahead n=4
Grand Total	2,452,476	3,384,257	2,131,047	3,030,997	1.31%	1.75%	1.07%	0.81%
Primary Total	2,074,511	2,411,847	1,107,092	2,636,258	1.18	1.32	0.59	0.99
Individual, Total	1,107,991	999,377	1,093,209	1,092,087	1.06	0.96	1.04	0.84
Total 1040, A & EZ	1,120,234	1,033,171	1,162,806	1,172,471	1.08	0.99	1.10	0.88
Form 1040	1,124,069	2,599,024	4,117,583	3,393,013	1.66	3.78	5.81	3.31
Form 1040A	1,442,117	3,003,729	4,576,449	4,637,274	7.83	16.34	25.08	20.03
Form 1040EZ	392,866	588,081	968,609	1,095,616	2.26	3.20	5.27	4.35
Other 1040	34,607	54,217	69,596	80,383	15.58	23.55	28.29	19.93
Individual Estimated Tax	1,347,787	1,678,646	1,122,930	1,459,947	3.74	4.54	3.03	2.87
Fiduciary	140,075	207,829	274,795	347,272	5.64	8.09	10.40	10.14
Partnership	75,638	103,915	116,447	200,665	4.28	5.85	6.55	8.88
Corporation	131,971	81,272	131,318	195,590	3.55	2.07	3.34	3.93
Estate Tax	5,020	7,705	13,098	17,256	7.51	13.06	22.93	24.82
Gift Tax	13,687	20,348	28,926	30,389	11.99	18.31	25.82	25.52
Employment Tax	284,194	423,542	436,933	468,562	1.03	1.50	1.54	1.18
Exempt Organization	35,840	40,015	47,161	43,720	7.59	8.02	9.48	6.99
Employee Plans	602,337	765,712	820,891	626,316	45.25	55.71	53.72	26.87
Excise	145,647	166,261	206,321	104,602	14.93	15.35	19.80	10.67
Selected Supplemental	710,642	1,083,076	1,064,580	1,008,290	7.02	10.78	10.45	3.55
Form 1040X	394,653	615,199	761,120	1,011,931	25.38	40.02	50.10	48.42
Form 4868	521,948	669,527	853,253	749,258	10.77	13.14	16.39	6.26
Form 2688	127,954	163,054	239,301	262,767	9.04	11.30	16.31	16.16
Form 1120X	26,157	31,315	35,684	49,887	72.48	96.43	112.49	119.72
Form 7004	56,854	68,610	94,935	109,106	3.28	3.93	5.40	5.35
Form 1041A	2,793	4,934	6,772	8,711	10.69	18.22	24.25	22.77

Table 2B. Accuracy of Spring Projections for Various Time Horizons

(FY projections made in the spring for returns to be filed one through four years ahead).

Type of Return	Mean Absolute Error				Mean Absolute Percent Error			
	One Yr. Ahead n=6	Two Yrs. Ahead n=5	Three Yrs. Ahead n=4	Four Yrs. Ahead n=3	One Yr. Ahead n=6	Two Yrs. Ahead n=5	Three Yrs. Ahead n=4	Four Yrs. Ahead n=3
Grand Total	2,770,552	3,615,594	2,945,324	3,730,106	1.46%	1.84%	1.48%	1.88%
Primary Total	2,184,721	2,647,270	1,915,305	3,116,466	1.22	1.42	1.02	1.66
Individual, Total	1,125,423	1,402,231	903,881	433,279	1.07	1.32	0.86	0.40
Total 1040, A & EZ	1,147,126	1,444,194	975,111	396,944	1.09	1.36	0.93	0.37
Form 1040	2,213,767	2,605,485	4,137,409	2,024,823	3.14	3.71	5.72	2.85
Form 1040A	2,370,764	3,596,548	5,464,387	3,398,279	13.11	19.43	30.12	18.91
Form 1040EZ	1,173,582	1,331,166	1,315,832	1,125,470	6.56	7.15	7.02	5.86
Other	43,014	62,035	74,892	95,376	19.02	25.66	29.83	35.83
Individual Estimated Tax	1,097,053	1,928,378	806,763	2,267,322	3.05	5.16	2.12	6.20
Fiduciary	158,660	233,948	290,466	396,644	6.32	8.93	10.83	14.63
Partnership	86,678	124,769	206,496	309,652	4.89	7.01	11.60	17.48
Corporation	103,295	114,381	150,036	186,466	2.64	2.97	3.78	4.56
Estate Tax	7,585	11,959	17,379	19,427	12.03	20.71	31.11	35.14
Gift Tax	19,523	28,208	40,046	45,242	17.14	25.36	34.83	38.61
Employment Tax	269,943	489,610	419,735	529,325	0.96	1.73	1.47	1.84
Exempt Organization	37,227	50,311	50,893	39,114	7.59	10.09	10.14	8.01
Employee Plans	732,026	995,560	997,272	480,136	48.63	62.00	66.82	28.08
Excise	156,714	166,034	133,022	103,454	14.66	14.88	14.05	11.08
Selected Supplemental	913,295	1,081,317	1,030,020	1,194,845	9.12	10.60	10.08	11.69
Form 1040X	496,844	737,149	1,016,573	1,331,611	31.45	48.51	68.18	93.25
Form 4868	633,785	683,080	685,448	446,860	12.48	13.17	12.90	8.32
Form 2688	107,559	166,609	166,242	252,778	7.51	11.42	11.15	15.85
Form 1120X	20,746	22,698	21,532	32,189	57.91	68.61	62.95	67.76
Form 7004	64,457	78,108	100,491	102,861	3.65	4.41	5.54	5.53
Form 1041A	3,077	5,558	7,258	9,385	11.50	19.89	25.01	31.05

The accuracy of two-year forecasts is examined in Tables 1A and 1B. They are of special interest since the FY projections are produced for budget purposes which focus particularly on the period which lies two years ahead. Tables 2A and 2B present the corresponding MAE and MAPE results for all time horizons between one through four years ahead. Note that our four-year MAEs and MAPEs correspond to the longer range forecasts made in 1983, 1984, 1985, and 1986.

Findings

The track record tables can be examined from many angles. The accuracy of fall forecasts can be compared with those of the spring by contrasting the "A series" tables with the "B series." Within any table, error rates by type of form can be examined by comparing the results by row. The results from the left-hand side of Table 1 can be compared with the information on the right-hand side to see if the accuracy of the most recent set of two-year forecasts is better or worse than the associated average for all such two-year forecasts (i.e., the two-year MAEs). Finally, to compare the projection accuracy based on time horizons, the results in Table 2 can be examined on a column basis.

Which particular comparisons are most interesting will vary by reader. The following discussion simply highlights some of the more significant findings on the accuracy of past projections. In some instances, unique reasons for specific error rates are suspected, and these matters are discussed below, as well. In the final analysis, however, observed projection errors are simply the inherent by-product of forecasting in the real world.

One to two percent projection errors for major return categories

The average percentage projection errors (i.e., MAPEs) for the major return categories are generally in the one to two percent range. This is regardless of the time horizon projected or whether the forecasts were prepared in the spring or fall. As shown in Table 2A, the one-year MAPEs for the fall projections of "Grand Total" and "Individual Total" are 1.31 and 1.06 percent, respectively. For the four-year MAPEs, these respective results are actually lower—0.81 and 0.84 percent. All the corresponding two and three-year MAPEs for fall forecasts of Grand Total and Individual Total are also under two percent. A similar range of results is found for the spring forecasts of Grand Total and Individual Total (Table 2B).

Small percentage errors can involve millions of returns

A percentage error rate of one to two percent can translate into millions of returns when you consider that the actual Grand Total return volume is in the 200 million range (see Table 1 for FY 1990 actuals). For example, as noted above, the one-year MAPE for Grand Total returns (fall projections) is only 1.31 percent. However, this entails an average projection error (i.e., MAE) of over 2.4 million returns. Thus, even small percentage errors can potentially result in resource shortfalls or other significant operational concerns, depending upon the flexibility embedded in the planning process.

Most of the latest two-year forecasts show improved accuracy

The FY 1990 forecast for total individual returns prepared in the fall of 1988 was overprojected by only 285,000 returns, or 0.25 percent (Table 1A). The corresponding two-year MAPE for Individual Total, which is the average of all the applicable two-year forecasts made for individual returns, is 0.96 percent. Thus, the accuracy of the most recent two-year forecast was significantly better than its average. This suggests an improving level of forecasting precision in the individual returns area. In fact, of the 25 return categories listed in Table 1A, 16 have smaller projection errors for their latest two-year forecast, compared to their corresponding two-year MAPEs. Generally speaking, this suggests improving projection accuracy in most return categories.

Longer range forecasts generally as accurate as shorter term

One of the most surprising discoveries in compiling these track record results was that the projection errors (as measured via the MAPEs) were generally not related to the time horizon of the forecasts. There are both intuitive and statistical reasons to expect larger projection errors the farther ahead in time one projects. Thus, it was generally expected that the one-year MAPEs for a given return category would be smaller than its corresponding two-year MAPE, which, in turn, would be smaller than its corresponding three-year MAPE, etc.

This expected pattern is present in a few instances. However, overall, these track record results show little relationship between the size of the projection error and the time horizon forecasted. For example, the one-year MAPE for the spring projections of Individual Total is 1.07 percent, while the corresponding four-year MAPE is only 0.40 percent (Table 2B). In effect, the accuracy of longer range forecasts is more or less the same as that of the shorter range projections.

While there are no definitive explanations for these results, the following factors may be contributing causes: (1) fewer observations are used to compute longer term MAPEs; (2) a "netting effect" may exist whereby larger, longer term *overprojections* in certain return subcategories are being offset by larger, longer term *underprojections* in others; and (3) the subsequent enactment of unforeseen tax law or administrative changes may have serendipitously improved the accuracy of longer range forecasts and at the same time rendered shorter range forecasts less accurate.

Generally good balance between over- and underprojecting

Both the fall and spring forecasts for Grand Total returns exhibit the desirable trait of being neither consistently overprojected nor repeatedly underprojected based on the results in the last column of Table 1. However, 64 percent of all the counts in Tables 1A and 1B (i.e., 32 out of the combined 50 rows in both tables) lay outside the desirable range of 2, 3, or 4 (fall only). Still, half of those outside the desired range exhibit tendencies toward overprojections, while the other half lean toward underprojections. These results reveal a relatively good balance with no monolithic tendency to either overestimate or underestimate two-year ahead forecasts.

Smallest error rate is for individual returns; largest error rate is for amended corporation returns

Based on the two-year MAPEs, the return category with the smallest projection error rate is total individual returns—0.96 percent for the fall projections (Table 1A) and 1.32 percent for the spring projections (Table 1B). In contrast, the largest relative error rate as measured by the two-year MAPE occurs with the Form 1120X projections (Amended U.S. Corporation Income Tax Return)—96.43 percent for the fall projections and 68.61 percent for the spring projections.

A major reason for this result is the relative size of the total return volumes involved. The return categories with larger MAPEs are generally those forms with smaller total volumes (i.e., around a million returns or less). In contrast, smaller MAPEs are generally associated with larger return volumes. Hence, while the two-year MAPE for fall projections of individual returns may be only 0.96 percent, its associated MAE is nearly one million returns. In contrast, the larger MAPE of 96.4 percent for Form 1120X projections entails a MAE of only 31,315 returns. Thus, MAPE and MAE values are best considered jointly—especially when building contingency plans.

Difficulties projecting the mix of forms within "Individual Total"

While the projection accuracy for total individual returns is relatively good, the projected mix of the major form types within that total shows noticeably less precision. The separate MAE and MAPE results for Form 1040 versus Form 1040A versus Form 1040EZ are generally much larger than those for the composite Individual Total. In addition, the projections for these return types show a strong bias to overproject the Forms 1040A and 1040EZ and underproject the Form 1040.

Three major reasons are behind this relatively poor track record for projecting the mix of individual returns. One is bias in several of the past econometric models for the Forms 1040A and 1040EZ which tended to overestimate future filings. Another is the introduction of the Form 1040EZ in tax year 1982 and the numerous tax law changes throughout the 1980s—particularly the Tax Reform Act of 1986. These changes enabled millions of taxpayers to switch from one form type to another, at their discretion. Finally, the effects of electronically filed returns further exacerbate the observed error rates by form type. All individual returns electronically filed are presently recorded as Form 1040, regardless of the characteristics of the return. In fact, an analysis of the 4.2 million returns electronically filed in 1990 reveals that 74 percent could have been submitted on either Form 1040A or Form 1040EZ.[3] Thus, the official reports serve to understate the "true" number of Forms 1040A and 1040EZ, and overstate the corresponding volume of Forms 1040.

Fall projections more accurate than spring forecasts

Projections prepared in the fall are usually more accurate than their prior spring counterparts. Contrasting the "A series" tables with the "B series" reveals that the respective MAE and MAPE results in the fall tables are routinely smaller than those for the spring. The primary reason for this is that more complete data are available in the fall. Projections prepared in the fall for both return filings and the antecedent economic forecasts often build upon actual results from the earlier part of the current year. Use of this partial-year information typically improves the accuracy of the fall forecasts relative to the earlier spring projections.

Conclusion

The key to intelligent use of projections is to recognize the imprecision inherent in all forecasts and to construct appropriate plans to handle a range of probable outcomes. To assist customers in this regard, this "track record" analysis has been prepared. By publishing this summary of the error rates for the fiscal year return projections, users of these projections now have a clearer picture of the overall reliability of those forecasts.

Notes and References

[1]This article was condensed from an earlier Research Division analysis entitled, "Fiscal Year Track Record: a Study of Projection Accuracy 1984-1990," June 1991.

[2]The return categories considered in each table (i.e. the rows) are those found in the current edition of Document 6292, with two exceptions. Data constraints prevented a full analysis of the Form 1041ES and Form 1042 projections. As a result, the track record summation categories "Grand Total" and "Primary Total" are slightly understated relative to the levels contained in Document 6292.

[3]See paper by Musselman in this publication.

Survey of Payers and Payees with IRS-Identified Invalid TINs

By Shien S. Perng and John Caggiano

The IRS performs a computer match between information IRS receives from taxpayers and the information returns reported to the IRS by payers of interest or dividends. The Internal Revenue Code requires that, after being notified by the IRS, payers backup withhold 20 percent of payments made to accounts with an IRS -identified invalid TIN. However, prior to this study the IRS had not initiated the notification process because the payer community felt that the IRS matching process was deficient, and hence, would cause IRS to identify valid TINs as incorrect and would force payers to require backup withholding when it was not justified. This survey was conducted to determine the sources of errors in TIN and name reporting as indicated by the computerized matching process. The results showed that, among the payer, payee and IRS, the payer caused the highest percent of mismatches—nearly 54 percent. The IRS and the payee each accounted for less than six percent of the mismatches. About 36 percent of the mismatches was attributable to other sources.

Background and Objectives

Section 3406(a)(1)(B) of the Internal Revenue Code requires that payers of interest or dividends "backup withhold" on payments made to accounts with a taxpayer identification number (TIN) identified as incorrect by the IRS. Under backup withholding, the payers of interest and dividends (normally financial institutions) are required to withhold 20 percent of the payments. The withheld amounts are paid over to the IRS where they are credited to the taxpayer (payee) for income tax purposes. The legislation authorized backup withholding to motivate taxpayers to provide correct TINs to their financial institutions. These financial institutions would then be able to report correct names, TINs, and amounts of interest and dividend payments to IRS.

Before backup withholding could be required of a payer, IRS was to notify the payer of the receipt of an incorrect TIN for a particular account. However, prior to this study the IRS had not initiated the notification process because of grave concerns among the payer community. Many payers felt that the IRS process of matching payer data against IRS files was deficient; they felt that the IRS files were incomplete and did not contain accurate and current information on taxpayers. These situations would cause IRS to identify valid TINs as incorrect and hence, would force payers to require backup withholding when it was not justified.

To address the concerns of the payers, the IRS conducted a study to determine whether TINs had been incorrectly identified as invalid by the IRS and if so, why and how did it happen. This survey had three purposes—to identify the causes and sources of the mismatch problem, to collect data to determine if the IRS match program was deficient, and to determine if the backup withholding program should be implemented. Payers with TINs identified as incorrect by IRS, and the corresponding payees if necessary, were surveyed and asked to provide explanations and reasons why the payee's TIN could not be validated by the IRS.

Methodology

A sample of payers and their payees was randomly selected from the IRS file that contained payers and their payees with IRS-identified incorrect TINs during 1989 processing. A total of 506 payers were selected from 14,166 payers in the file, and a total of 21,930 payees of these payers were selected for the survey.

Two notices, CP 2300 and CP 2301, were specifically designed to collect data from these payers and payees. The CP 2300 notice was used to solicit the payer's cooperation in the study. The CP 2301 notice contained the payee's

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TIN and name information that were reported to the IRS by payers and used in the matching process. A CP 2300 notice was mailed to each selected payer along with a varying number of CP 2301 notices, one for each of its payees in the sample. If the payer agreed to participate in the study, they reviewed the CP 2301 notices and compared the information on the notice with the information the payer had on the payee. If the information matched, the payer completed the appropriate portion of the CP 2301 notice and mailed it to the payee for further verification. If the information did not match, the payer reviewed its records to determine why the information did not match, filled out additional questions on the CP 2301 notice, and mailed it back to the IRS.

When a payee received a CP 2301 notice, he or she was asked to review the TIN and name information for accuracy. The payee was asked in the notice to select a statement which best described why the information had been identified by IRS as incorrect or to indicate if the information was indeed correct and current. The payee was asked to mail the completed notice to the IRS in a pre-addressed envelope.

The data from the CP 2301 notices were combined with the data from the IRS file to associate the payee notices with their appropriate payers. This process was needed to assign a proper sampling weight to each notice, since only a portion of payers, and a portion of the payees of the selected payers, were selected to participate in the study. The weights were used to compensate for the different sampling rates of selecting payees from different payers so that the results would reflect the characteristics of all payees in the IRS file from which the sample was selected.

Responses and Weighting

Of the 506 payers selected for the survey, 387 participated. This constituted a participation rate of 76 percent. Of the 21,930 CP 2301 notices sent, 12,198 were returned from the payers or payees with useful information. This yielded a completion rate of 56 percent. Another 1,131 notices were returned as undeliverable to payees or to payers. These were also coded and included in the database. But these notices, along with others with insufficient information, were excluded from the tabulation.

The numbers reported in the following tabulations are unweighted, while the percentages are weighted. The unweighted numbers represent the number of notices in the database. The weighted percentages reflect the results for all payees in the IRS file.

Distribution of Notices by Payer Category

Payers were asked on the CP 2301 notice to identify their relationship with the payees. Bank/credit union, transfer agent/broker, and savings and loan are the three major types of payers. Their payees together comprised almost 95 percent of the mismatch population. Table 1 summarizes the results.

Table 1
Distribution of CP 2301 Notices Received by Payer Category

Payer Category	Number	Percent
Bank/Credit Union	6,471	47.6
Transfer Agent	1,017	13.2
Savings and Loan	1,775	33.8
Mutual Fund/Cooperative	486	2.6
Trust/Trustee	52	0.2
Insurance Company	243	0.7
Dividends Payer/Liquidation	45	0.4
Other	329	1.5
Total	10,418	100.0

Analysis of Sources of Errors

Tabulation by Source of Errors

Based on the responses of payers and payees, an error code was assigned to indicate the type of errors that caused the mismatch between the TIN and name information on the information returns and the information on IRS files during the computerized correlation process. These errors were then classified into four categories based on the sources of errors. These sources are IRS, payer, payee, and other sources, as shown in Table 2.

Table 2
Sources of Errors for IRS-Identified Invalid TINs

Sources of Errors	Number	Percent
IRS Errors	741	4.7
Payer Errors	5,668	53.6
Payee Errors	830	5.6
Other Sources	3279	36.2
Total	10,418	100.1

The table shows that payer errors accounted for 53.6 percent of the mismatches. The IRS contributed only 4.7 percent of the mismatches. Payee errors accounted for 5.6 percent. There were 36.2 percent in the other sources category not attributable to the IRS, payers or payees. They included "payee recently updated information with payer" (11.4%), "IRS has record of TIN, but name does not match" (11.0%), "payer and payee said matched, but not in BMF" (8.1%) or "not in IMF" (3.6%). The BMF is the business master file of the IRS with information from business returns, and the IMF is the individual master file with information from individual returns.

Tabulation of Error Source by Payer Category

Table 3 shows the distribution of the mismatches by error source and by the three major payer categories. The IRS caused a lower percentage (2.6%) of errors for the bank/credit union payers, while they caused a higher percentage (7.7%) for the savings and loan payers. Agent/broker and savings and loan payers contributed a higher percentage (55.2% and 56.2%, respectively) of payer errors compared to other payers (only 53.6% overall). Also, other sources of errors contributed a very high percentage (46.0%) of errors for the bank/credit union payers.

Table 3
Distribution of Mismatches by Error Source and by Payer Category

Source of Error	Overall	Bank/ Credit Union	Agent/ Broker	Savings & Loan
IRS Errors	4.7	2.6	4.7	7.7
Payer Errors	53.6	45.5	55.2	56.2
Payee Errors	5.6	5.9	7.7	3.7
Other Sources	36.2	46.0	32.4	32.3
Total	100.1	100.0	100.0	99.9

Analysis of Error Source by Type of Error

Tables 4 to 6 summarize the distributions of IRS identified no-matches by type of error for three sources of errors: IRS errors, payer errors, and payee errors. They include percentages within the category and percentages of the total. These tables provide further insight into the error characteristics within each source of error that are identified by type of error.

Distribution of IRS Errors by Type of Error

Table 4 shows the distribution of the IRS mismatches attributable to IRS errors by type of error. The IRS caused a total of 4.7 percent of the errors identified in the TIN matching process. Among these errors, 39.5 percent were due to "IRS changed payer's data," as payers indicated on the CP 2301 notice. Another 19.8 percent were due to "IRS (recently) re-established business entities on BMF" after previously deleting the business entities from the BMF, or the IRS did not post the business entities to the BMF.

Table 4
Distribution of IRS Errors by Type of Error

Type of Error	Number	Weighted Category	% of Total
IRS re-established business entities on BMF	185	19.8	0.9
Correct EIN, document attached	2	2.1	0.1
Information matches exactly, not amended in past three years	40	7.5	0.4
IRS changed payer's data	304	39.5	1.9
Name associated TIN on 2nd name line	68	14.1	0.6
Name comprised of 2 words	1	0.2	0.0
Payer issued correction, not processed by IRS	63	0.9	0.0
Information matches exactly, no other information	35	2.0	0.1
IRS/SSA incorrectly established entity	271	1.7	0.5
IRS dropped EIN	16	2.1	0.1
Total	741	99.9	4.6

Distribution of Payer Errors by Type of Error

Table 5 shows the distribution of the IRS mismatches attributable to payer errors by type of error. The results show that the payers collectively contributed a total of 53.6 percent of the mismatches identified by the IRS. This is the largest source of errors. Among these errors, 31.7 percent were due to "payer incorrectly processed information," as admitted by payers on the CP 2301 notice; it was not specified how the information was incorrectly processed. Another 30.5 percent of the errors were due to "one incorrect digit" and an additional 11.6 percent were due to "two or more incorrect digits" while the payer was keying in payee's TINs.

Table 5
Distribution of Payer Errors by Type of Error

Type of Error	Number	Weighted % of Category	Weighted % of Total
Exempt Account	9	0.2	0.1
Payee has alien status	7	0.0	0.0
Payer incorrectly processed name and TIN	11	0.1	0.0
Payer provided only one name line, name for TIN on 2nd per IRS	246	5.0	2.6
Payer provided only one name line, payee indicated name on 2nd line	56	0.8	0.5
Payer incorrectly processed information, not detailed	1,474	31.7	17.0
Temporary EIN, not updated	60	0.5	0.3
One incorrect digit	1,764	30.5	16.4
Transposition	295	5.1	2.7
Two or more incorrect digits	799	11.6	6.2
Payer abbreviated names	196	2.3	1.2
Misspelled name	264	3.3	1.7
Correct information lost by payer	269	5.7	3.0
Payee's update not made	81	1.2	0.6
Information not given by payee	137	2.0	1.1
Total	5,668	100.0	53.6

Distribution of Payee Errors by Type of Error

Table 6 shows the distribution of the IRS mismatches attributable to payee errors by type of error. The payee contributed 5.6 percent of errors identified by the IRS matching process. Among these errors, 16.9 percent were due to a "sole proprietor using SSN" as TIN and 35.8 percent due to the "IRS assumes the payee is a sole proprietor using SSN" as TIN. These two accounted for 52.7 of the errors. Another 13.7 percent were due to "payee provided incorrect information" and 10.0 percent were due to "payee used someone else's TIN."

Table 6
Distribution of Payee Errors by Type of Error

Type of Error	Number	Weighted % of Category	Weighted % of Total
No TIN, but name control	2	0.2	0.0
Sole proprietor, used SSN	136	16.9	1.0
IRS assumes payee is sole proprietor, using SSN	314	35.8	2.0
Payee provided incorrect information	76	13.7	0.7
Payee assumed account, changed name not TIN	0.1	11	2.5
Payee assumed name with payer, not with IRS	10	1.0	0.0
Payee used SSN for business account	34	5.2	0.3
Payee used someone else's TIN	112	10.0	0.5
Payee used someone else's name	44	4.0	0.3
Payee changed name but did not inform SSA of change	5	4.4	0.3
Account should have been closed	8	1.6	0.1
Business account opened with individual's name and an EIN	5	1.4	0.1
Changed name, but not TIN	23	3.5	0.3
Total	830	100.1	5.6

Conclusions

The purpose of the survey was to identify sources of IRS mismatches. The results showed that, among the payer, payee and IRS, the payer caused the highest percentage (53.6%) of the mismatches. The IRS and payee accounted for only a small percentage (4.7% and 5.6%, respectively) of mismatches. About 36 percent of the mismatches were attributable to other sources.

Of the mismatches caused by payers, 31.7 percent were due to incorrect processing, 30.5 percent were due to one incorrect digit, and 11.6 percent were due to two or more incorrect digits. These three types of errors accounted for almost three quarters of the payer errors. Other major errors included information lost by payers (5.7%), transposition of digits (5.1%), and providing the wrong name line. All these types of errors could have been avoided had the payers had better systems for data transcription and processing. They are correctable errors.

The survey showed that the payer had caused the highest percentage of the IRS mismatches, and that their errors were correctable. Thus, the concern of the payer community that the IRS would force unjustified backup withholding due to errors beyond their control was not well founded. Following this survey, the notification process for backup withholding purposes was implemented.

Predicting Employment Tax Compliance: Further Analysis of the SVC-1 Employer Survey

By Ken R. Beier

Analysis of SVC-1 employer survey data indicates that finance, insurance and real estate firms are more likely to underreport FICA and FUTA wages. Construction firms (other than heavy construction) are also found to have a higher level of underreporting of FUTA wages.

Background

The Strategic Initiative on Withholding Noncompliance (SVC-1) assessed the extent and causes of noncompliance in the withholding area. The employer survey measured compliance with the following: employment tax returns, W-4 submittal, worker classification, and compliance of U.S. citizens claiming exemption from withholding on foreign income. Other SVC-1 surveys addressed the tax compliance of workers employed by firms in the employer survey, W-4 filing patterns, characteristics of W-4 filers, agricultural withholding, and foreign withholding systems. This article examines data from the employer survey to establish characteristics of those who underreport wages on Form 940 and Form 941.

The SVC-1 employer survey covered 3,331 employers with a Form 941/Form 941E record on the Business Master File (BMF) for tax year (TY) 1984. Form 941 is the Employer's Quarterly Federal Tax Return. State and local governments and other employers who only withhold income tax file Form 941E, Quarterly Return of Withheld Federal Income Tax. These filers do not pay FUTA tax and do not withhold social security taxes. The sample does not include organizations with no employees and those that were legally required to file a Form 941 or Form 941E, but did not have a record on the BMF. The survey, which was conducted from June 1986 through May 1987, established employment tax and related data for tax year 1984. The sample represents approximately 5.15 million employers and was randomly selected from all industries and large and small employers within each industry.

Data from this survey indicate that most wage underreporting is due to misclassification of employees as independent contractors. Service and construction (other than heavy construction) firms and small employers were found to be the most likely to misclassify their workers. Other than that, there were no strong indicators of noncompliance in reporting of wages.

It is possible that a more rigorous analysis of the SVC-1 employer survey data could yield additional insights into the characteristics of noncompliant employers. This could serve as a tool for estimating expected recommended amounts from employment tax examinations which in turn could provide a guide for employment tax case selection. Case selection is currently done on a case-by-case basis at the district level. Procedures for case selection have also recently been examined by the House Committee on Government Operations which recommended that "IRS develop a more systematic and objective approach to identifying employers who have potentially misclassified workers as independent contractors."[1]

Analysis

The SVC-1 employment tax examinations established taxpayer-reported and examination-corrected amounts for line items on employment tax returns for a representative group of employers. The survey data also included industry (such as agriculture, manufacturing), type of organization (such as sole proprietorship, corporation), and employment size.

Regressions were run to establish what characteristics are associated with underreporting. Characteristics included in the analysis were the presence of reported wages, the level of reported wages, the number of employees, industry (e.g., agriculture, manufacturing) and type of organization (e.g.,

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agriculture, manufacturing) and type of organization (e.g., sole proprietorship, corporation). The regression model and detailed results are presented in the Appendix. The analysis explains 7.4 percent of nonreporting of Form 940 (Employers Annual Federal Unemployment (FUTA) Tax Return) wages and 1.7 percent of unreported Form 941 (Employers Quarterly Federal Tax Return) taxable wages. This means that most of the variation in unreported wages is due to factors that are not included in the regression model.

The regression results indicate that unreported wages are significantly higher for one industry—finance, insurance and real estate (FIRE). For both Form 940 and Form 941, underreporting of wages is also positively related to the level of reported wages. This confirms the intuitive notion that large firms (with a high level of reported wages) will have a higher level of unreported wages than small firms (with a low level of reported wages). The results also tell us that for two firms—a FIRE firm and a manufacturing firm—with the same level of reported wages, the FIRE firm is expected to have a higher level of unreported wages.

For Form 940, the analysis indicates that, for all firms, an average of five dollars in unreported wages is expected for every $2,000 in reported taxable wages. For FIRE firms, an additional $4,967 in unreported wages is expected in an examination. For construction firms (other than heavy construction), an additional $2,895 in unreported wages is expected.

For all firms, the analysis indicates that for every $2,000 in reported Form 941 wages, one dollar of unreported wages is expected. For FIRE firms, an additional $15,938 in Form 941 unreported wages is expected.

These results allow us to predict the level of unreported Form 941 wages for a FIRE firm. For example, if we were to examine an insurance company with $20,000,000 in reported wages on Form 941, we would expect to discover $15,938 in unreported wages because it is a FIRE firm and $10,000 ($20,000,000/2,000) because of the level of reported wages. The total level of underreported wages expected from an examination is $25,938 ($15,938 + $10,000). Yields from particular audits would vary from this amount, but, on the average, examination of firms with these characteristics is expected to yield $25,938.

Service employers, who appeared to be less compliant in the initial analysis of misclassification from the employer survey do not appear to be significant in this analysis. In the regression model, FIRE and construction (other) emerge as the only industries to exhibit significant noncompliance. The regression model should be a more thorough way to examine noncompliance, since it separates out the various relationships.[2] From the regression results we know that noncompliance is associated with a particular variable (FIRE industry) rather than other variables (e.g., type of organization, size) that are included in the model. This separation of relationships is more difficult with the previous description of compliance by industry or size class.

Conclusion

In actual employment tax case selection, IRS field offices may have better indicators of noncompliance than those included in this analysis. Current selection criteria include leads from employees, competitors of noncompliant taxpayers, and state unemployment tax investigations.

The above analysis indicates that FIRE firms are clearly less compliant in reporting wages on Forms 940 and 941. Construction (other) firms are less compliant in reporting FUTA (Form 940) taxable wages. Use of these indicators to select employment tax returns for examination would be substantially better than a random selection process and could also contribute to improvement of current selection procedures.

The approach used here could be extended to other samples of employment tax leads. For example, a random sample of leads from a district employment tax program could be examined. Regression analysis of such audits could include more variables than the SVC-1 analysis. These include type of lead and characteristics from income tax and information (Form 1099) returns for the employer. The approach developed here or that developed from a survey of employment tax leads could help address the concerns about more systematic approaches to employment tax case selection and could improve the allocation of employment tax examination resources.

Notes and References

[1]U.S. Congress, House Committee on Government Operations, *Tax Administration Problems Involving Independent Contractors*, 101st Congress, House Report 101-979 (Washington, D.C.: GPO, November 9, 1990), p.8.

[2]Significant relationships in a regression model should not be interpreted to imply causality. The actual causes (e.g., lack of understanding of the common law rules for defining an employee or a desire not to pay employee-related costs) were not established in the SVC-1 survey.

Appendix

A weighted multiple regression was run to establish what characteristics "explain" nonreporting of wages. The model, which was run for both Form 940 taxable wages (Part 1, Line 5 from Form 940) and Form 941 wages (Line 2 from Form 941), is as follows:

Unreported taxable wages =

f[wage dummy,
the level of reported wages,
employee count,
industry (e.g., agriculture, manufacturing), and
type of organization (e.g., sole proprietorship, corporation)].

The wage dummy indicates whether the employer had reported wages. Since the absence of reported wages could indicate noncompliance, a negative relationship was expected for the wage dummy. Since the magnitude of underreporting is expected to be larger for larger employers, a positive relationship was expected for the second variable, the level of reported wages. The industry and type of organization variables are a series of dummies for the appropriate industry or type of organization. The dummies are mutually exclusive, that is, a firm is identified with only one industry. Although there is some evidence of employment tax noncompliance in services, construction and transportation, there was no strong prior evidence to indicate the relationship of the industry and type of organization variables to nonreporting.

The independent variables are all known prior to an employment tax examination; thus they could be used in case selection. The presence of a substantial amount of unreported wages by one airline dominated the initial regression results. Although this is a valid observation, it may not be appropriate to say that it is representative of other employers in that industry or size class. The weight for this employer was set equal to one for the regression analysis.

The regression results are presented in Table 1. The model has an adjusted R^2 of .0736 for Form 940 taxable wages and .0166 for Form 941 wages. Both regression results (Form 940 and Form 941) indicate that unreported wages are significantly higher for one industry—finance, insurance and real estate (FIRE). Both Form 940 and Form 941 unreported wages are also positively related to the level of reported wages. Regression coefficients that are significant (at the 1 percent level) are indicated by an asterisk (*) to the right of the coefficient in the following table.

Table 1
Regression of Forms 940 and 941 Wage Reporting on Employer Characteristics

Independent Variable	Form 940	Form 941
Intercept	801.2275	-1251.3624
	(0.540)	(.255)
Wage Dummy	-476.2179	1291.9153
	(0.634)	(0.514)
Reported Wages	.0025*	.0005*
	(13.651)	(3.931)
Employee Count	-1.4882*	-.8185
	(3.254)	(0.602)
Industry Dummy Variables		
Agriculture	1932.5911	2743.6834
	(0.761)	(0.354)
Mining, Oil, & Gas	4994.5073	4926.3015
	(1.392)	(0.440)
Mining, Other	1103.7069	1944.9560
	(0.209)	(0.118)
Construction, Heavy	3128.1841	4669.2014
	(0.778)	(0.371)
Construction, Other	2894.5727 *	3427.0993
	(2.616)	(0.998)
Manufacturing	-554.7832	-862.6354
	(0.491)	(0.246)
Transport, Air	3567.0807	9127.991
	(.399)	(0.328)
Transport, Other	253.8353	164.5978
	(0.0146)	(0.030)
Wholesale, Retail	-446.8169	-1951.1984
	(0.539)	(0.781)
FIRE	4967.7418*	15937.9440*
	(4.394)	(4.579)
Service	367.0003	26.6784
	(0.465)	(0.011)
Type of Organization Dummy Variables		
Government	-743.2865	2708.2508
	(0.237)	(0.408)
Corporation	887.3792	3738.9899
	(.586)	(0.820)
Subchapter S	-486.9693	3445.3483
	(0.294)	(0.678)
Partnership	580.7445	-1426.2442
	(.329)	(0.268)
Sole Proprietorship	867.3412	1785.5859
	(0.588)	(0.405)
Exempt Organization	1688.7305	1798.3963
	(0.888)	(0.354)
R^2	.0736	.0166

Table Notes

Wage dummy indicates the presence of wages on the initial return.

Numbers in parentheses below the coefficient estimates are t statistics.

* Indicates significance at the I percent level.

The regression for Form 940 indicates significant coefficients of .0025 for wages, -1.4882 for employee count, 2,895 for other construction, and 4,968 for FIRE. The relationship to the wage dummy is negative and insignificant.

For Form 941, the regression indicates significant coefficients of .0005 for wages and 15,938 for FIRE. The relationship to the wage dummy is positive and insignificant.

Impact of Collection Enforcement Action on Individual Taxpayer Behavior

By Joel Friedman

The IRS Collection function has conducted a wide variety of studies and analyses which provide information on the impact of enforcement action on individual taxpayer behavior. The results suggest that neither enforcement action nor the lack of enforcement action on the delinquent taxpayer population seems to have much of an effect on their filing and paying patterns on the next return. Rather, the primary value of enforcement action on delinquent taxpayers seems to be in the securing or resolution of delinquent returns and the collection of tax liabilities.

Introduction

This paper describes three research efforts by the IRS Collection function which provide information on the effect of collection enforcement action on individual taxpayer behavior. Both the immediate effect of enforcement action on resolving current liabilities and the longer-term effect on subsequent tax periods are examined.

The Effect of Enforcement Action on Individual Taxpayer Behavior

In an *ex post* study of the effect of enforcement action on individual taxpayers, six groups of individual taxpayers were identified whose accounts had received enforcement action.[1] These groups contained taxpayers who had been subjected to six different types of enforcement:

1) *"Notice of Levy " issued by a revenue officer in Collection Field function (CFf),*[2]
2) *Seizure of property,*[3]
3) *"Notice of Federal Tax Lien,"*[4]
4) *"Notice of Levy"* on *wages, salary, and other by Automated Collection System (ACS);*
5) *"Notice of Levy" on wages, salary, and other by CFf; and,*
6) *"Notice of Levy" issued by ACS.*

These enforcement groups were not necessarily mutually exclusive. For example, a case could have been subjected to both a lien and a levy. The test cases were pulled during one cycle (week) in 1985 (cycle 8541), and were selected from the North Atlantic, Southeast, Midwest, and Southwest Regions.

For comparison purposes, we looked at the subsequent compliance of two control groups of cases approximately 100 weeks after the third notice cycle.[5] Control Group One consisted of accounts that were identified at the third notice and then resumed normal processing. These cases may or may not have had enforcement action beyond the notice stream. Control Group Two had a two-year lag between the second and third notice, and this group of taxpayers had yet to receive any additional enforcement action beyond the second notice at the time of this analysis.

Approximately one year after the enforcement activity took place, all six of the enforcement groups had a higher percentage of delinquent accounts compared to the two control groups. The enforcement groups also had a lower percentage of subsequent returns which were full paid compared to the two control groups, as can be observed from Table I.

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Table 1
Current Status of Return Subsequently Filed Form (Condition at Time of Filing)

	Enforcement Groups						Control Groups	
	1	2	3	4	5	6	1	2
Full Paid	52.4%	62.8%	49.8%	64.6%	47.5%	57.0%	77.1%	69.7%
TDI[6]	9.5	5.9	9.1	8.5	12.2	9.5	7.0	8.6
Del Acct Notice	19.0	5.4	9.2	7.7	10.9	12.3	1.8	1.3
TDA[7]	4.8	9.9	13.4	6.3	8.5	6.3	2.6	4.7
IA[8]	6.3	2.4	5.2	3.7	7.3	3.8	0.8	1.2
Deferred[9]	2.4	1.4	1.0	1.2	1.3	0.8	0.8	0.8
Filing Extension	3.2	2.4	6.2	3.1	9.8	6.7	0.5	1.8
No Activity	2.4	9.8	6.1	4.9	2.5	3.6	9.4	11.9

Further, the enforcement group taxpayers were at least twice as likely to seek out an installment agreement (IA) on the subsequent tax period than were taxpayers in both control groups. Thus, the data suggests enforcement action may motivate the taxpayer to seek an installment agreement.[10] This may, however, represent an incremental improvement in compliance, if taxpayers who are given an installment agreement abide by the terms of the agreement.

As can be observed in Table 2, taxpayers who require enforcement action appear more likely to file a balance due return in the next year than delinquent taxpayers who may or may not have had their deliquent account result in enforcement action (Control Group 1), and deliquent taxpayers who did not have enforcement action (Control Group 2).

There are many possible explanations for these findings. First, the enforcement groups consisted of delinquent taxpayers whose accounts resulted in TDAs. These taxpayers may be less responsive to different enforcement stimuli than the typical taxpayers identified in the balance due notice

Table 2
Type of Return Subsequently Filed

	Enforcement Groups						Control Groups	
	1	2	3	4	5	6	1	2
Balance Due	31.0%	32.1%	28.4%	21.5%	29.8%	29.6%	25.9%	21.2%
Refund	28.2	25.5	28.0	42.6	28.6	31.4	45.0	45.1
Even	12.7	12.6	8.5	8.2	6.1	10.3	12.1	11.2
No Return Posted/No Activity	28.1	29.8	35.1	27.7	35.7	28.7	17.0	22.5

stream. Conversely, the control group cases were sampled in an earlier stage of the balance due delinquency chain (after second notice), and probably represented a more compliant delinquent taxpayer.

Second, taxpayers who have a history of noncompliance that requires enforcement action may be more prone to future noncompliance than more typical taxpayers who resolve their delinquency in the notice stage. This repeated noncompliance among taxpayers who require enforcement action may relate to a number of factors—less fear of punishment, the belief that they can escape punishment, greater misunderstanding of the tax law, a belief that they were not treated fairly in the past, and a belief that the tax system itself is not fair. At a minimum these taxpayers appear to be less risk adverse than those in the control groups. Thus, these noncompliant taxpayers may not change their behavior in response to negative reinforcement and punishment alone.

Finally, taxpayers who require enforcement action may have fallen too far behind in their taxes to become compliant on the first subsequent tax period to show activity after the enforcement action. This interpretation may be the most optimistic, since it implies that once taxpayers have had the opportunity to "get back on their feet," they will eventually comply.

The *ex post* experimental design limits how far we can generalize the results of this study. First, we did not have a true control group, which would consist of taxpayers whose delinquent accounts progressed to TDA status, and under normal circumstances would have had a levy, lien, or seizure issued. However, for test purposes, these enforcement actions would have been withheld. Thus, this comparison could have shown that the levy/lien does improve future compliance on taxpayers with TDAs, but not to the extent that they reach the same level of compliance as the more typical delinquent taxpayer who does not reach TDA status.

Second, in the enforcement group, we did not isolate those taxpayers on whom the enforcement action actually caused them to full pay their accounts or at least to pay what these taxpayers perceived to be a large sum of money. These taxpayers may be more compliant in the future than taxpayers who were levied with no substantial results. Taxpayers in this latter group may now think that the IRS cannot reach them and, hence, continue to be noncompliant. Despite these limitations, the study strongly suggests that taxpayers who require strong enforcement action have greater future noncompliance than taxpayers who pay their balance due in response to IRS billing, although the relationship is not necessarily causal.

The Effect of Time on Collecting Balances Due

The prior study suggests that enforcement action may not have a noticeably positive effect on subsequent taxpayer compliance—especially on taxpayers who require enforcement action. However, enforcement action does have a major impact on the outcome of the delinquent account toward which it is directed. In a study on the effect of time on collecting balances due, we sought to determine the effect that freezing collection action on balance due notices between $500 and $5,000 had on the collectibility of those notices, as well as on subsequent compliance. The control and test groups in this study were as follows:

- ***Control Group****—ordinary processing prescribed at time of case identification;*
- ***Treatment One****—same as the control group except there is a six-month lag between the second and third notices;*
- ***Treatment Two****—same as the control group except there is a one-year lag between the second and third notices; and,*
- ***Treatment Three****—same as the control group except there is a two-year lag between the second and third notices.*

The test cases were identified and pulled from the Fresno and Ogden Service Centers during cycles 8449 to 8525. Table 3, below, shows the percentage of the third notice dollars collected at various points in time.

Table 3
Percentage of Third Notice Dollars Collected at Various Points in Time

	Control Group	T1	T2	T3
Cycle 8602	68.4%	43.8%	36.8%	36.7%
Cycle 8628	78.2	69.2	49.1	47.8
Cycle 8702	81.2	88.6	66.7	52.1
Cycle 8739	83.3	96.6	78.1	70.1

The immediate effect of pursuing collection action on delinquent accounts was quite clear in the control group as of cycle 8602, as shown by the much higher percentage of the third notice amount paid. As of cycle 8602, only the control group had received full-scale collection action. Treatment One cases had received a third and final notice, but had not been sent to the CFf or ACS for contact by an employee.

By cycle 8628, only the control group and Treatment One cases had received full scale collection action. Treatment Two cases had received a third and final notice, but these cases had not been sent to the CFf or ACS. The effect of enforcement action on the Treatment One group is clearly seen—these cases had the biggest jump in the percentage paid from cycles 8602 to 8628, from 43.8 percent to 69.2 percent paid.

By cycle 8702 all groups except the Treatment Three group had been subjected to the third notice, final notice, and ensuing enforcement action. The Treatment Two group had a larger net increase in the percentage paid between cycles 8702 and 8628, relative to the prior six-month interval, reflecting the effects of full collection action.

Finally, by cycle 8739, the Treatment Three group had also been subjected to the third notice, final notice, and ensuing enforcement action. The effect of this enforcement action is clearly seen on the Treatment Three cases, which had the greatest increase in the percentage of the third notice amount collected from cycle 8702 to 8739.

Table 4, below, displays results from a similar time analysis which focused on the percentage of cases which were disposed of as full paid.

Table 4
Percentage of Third Notices Disposed of as Fully Paid at Various Points in Time

	Control Group	T1	T2	T3
Cycle 8602	62.7%	40.9%	30.7%	31.9%
Cycle 8628	74.4	60.9	44.3	43.3
Cycle 8702	78.7	67.1	58.5	50.3
Cycle 8739	83.6	75.1	70.8	67.8

The largest increase in the percentage of cases disposed of as fully paid occurred immediately after enforcement action began. In sum, these results clearly show that the third and final notice and any subsequent enforcement action, even after a two year delay, have the immediate effect of speeding up the collection flow. Further, after similar periods of time had elapsed after the third notice was actually sent, the percentage of cases disposed of as fully paid and the percentage of third notice dollars collected did not decline as a result of delayed enforcement.

However, delaying enforcement action for two years, as opposed to normal processing, had a slightly negative effect on *subsequent* compliance—there was an increase in the percentage of subsequent returns not filed timely which eventually resulted in a taxpayer delinquency investigation (9.8 percent versus 4.3 percent). There was also a slightly lower full pay rate (70 percent versus 77 percent) among this group of taxpayers.

Compliance of Cases in the Queue

A limitation of the experimental design to measure the effect of delaying enforcement action on collectibility is that the cases selected were sampled while still in the notice stream. Perhaps, the effect of delaying enforcement action would have more adversely affected both subsequent filing compliance and the collection of the current balances due, if the returns had been sampled after reaching TDA status. To overcome this limitation, random samples of individual taxpayers were selected from the queue (a ranked inventory of TDAs and TDIs awaiting collection action) of five different districts.[11]

Approximately 2,400 taxpayers in TDA status, TDI status, and a combination of TDA/TDI were selected and randomly assigned to test and control groups. The test cases were sent to CFf in November 1987, to be worked by revenue officers, with red lettering stating "TEST CASE, DO NOT RETURN TO QUEUE," while the control cases were left in the queue. The test cases were similar in balance due amount to those in the Time Study. As can be seen in Table 5, the primary finding was that the control cases that remained in the queue had significantly more instances of subsequent nonfiling that resulted in TDIs. However, the data did not show more instances of balance due notices or TDAs for the control versus test group.

Table 5
Percent of Subsequent TDIs on Test and Control Cases

Case Type	Test	Control
TDA	6.1%	9.5%
TDI	11.5	19.8
Combination	17.9	24.7

Conclusion

Enforcement action has the immediate effect of accelerating the collection of delinquent accounts by causing taxpayers to fully pay delinquent accounts, even with delays of up to two years. Delaying enforcement action, then, does not result in a more enforcement-resistant delinquent taxpayer. In addition, delaying enforcement action on individual taxpayers for up to a two year period does not result in the taxpayer becoming a habitual delinquent. In other words, the lack of enforcement action for an extended period of time does not change taxpayer behavior or reduce taxpayer compliance.

In sum, neither enforcement action nor the lack of enforcement action seems to have much of an effect on the future filing and paying behavior of the taxpayer who has had a delinquent account. Rather, the primary value of enforcement action on delinquent taxpayers seems to be in the securing or resolution of delinquent returns and the collection of tax liabilities.

Notes and References

[1]M. Hunter, "Impact of Enforcement on Subsequent IMF Compliance," unpublished IRS paper, September 1987.

[2]A "Notice of Levy" refers primarily to garnishment of bank accounts, money markets, wages, or salary.

[3]Property seizures commonly include vehicles, boats, land, and residences.

[4]A federal tax lien allows the government the right to take, hold or sell the property of a taxpayer as security for unpaid tax liabilities.

[5]J. Friedman, "Final CRF Report: Effect of Time on IMF Balance Due Accounts," unpublished IRS paper, November 1987.

[6]A taxpayer delinquency investigation (TDI) is a delinquent return case, which is not resolved by notices, and which requires a telephone or personal contact by an IRS collector.

[7]A taxpayer delinquent account (TDA) is a balance due case, which was not resolved by notices, and which requires a telephone or personal contact by an IRS collector.

[8]An installment agreement (IA) is an agreement with a taxpayer in which they may, under certain circumstances, be allowed to make payments of a specific amount during specified time intervals, to pay off their tax liability.

[9]Deferred cases are small dollar cases which are not pursued after the balance due notice stream. They may be subjected to further enforcement action should the taxpayer incur additional liabilities.

[10]We have found, however, that individual taxpayers who are given an installment agreement (IA) after the module enters TDA status are far more likely to default on that IA than a taxpayer who takes on an IA while the delinquent account is still in the notice stream. See J. Friedman, "Analysis of Installment Agreements Given in CY 1988 Using the Collection Research File (8952)," unpublished IRS paper, April 1990.

[11]D. Beazley, "The Queue Compliance Study," unpublished IRS paper, August 1989.

Tax Amnesty: Improving Compliance?

By Timmie S. McArthur and Edward F. Emblom

Over the past decade, tax amnesty programs have become increasingly popular at the state level. By the end of 1990, thirty-three states and the District of Columbia had completed tax amnesty programs. Although these state amnesty programs generated about $1.5 billion, much of this revenue represents quick collections of accounts receivable. Furthermore, amnesty research suggests that any long-term gains in revenue resulting from tax amnesty are small; however, tax amnesty may provide an appropriate transition period before enhanced enforcement programs go into effect.

Introduction

A tax amnesty is a program in which noncompliant taxpayers are able to pay back taxes and interest owed to the government without fear of criminal prosecution. Typically, all penalties are waived. Over the past decade, thirty-three states and the District of Columbia have conducted tax amnesty programs.[1] Three of those states have conducted multiple amnesty programs.[2]

State amnesty programs vary widely in terms of the taxes covered, eligibility requirements, penalty waivers, and program duration. Because of these variations, it is impossible to make direct comparisons of these amnesties based solely on amounts collected, numbers and types of participants, and the inclusion of accounts receivable.

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The differences in amnesty programs are due to the variation in the goals of each state. Some states offered amnesty as a means of collecting additional revenue during a budget shortfall rather than considering alternative revenue raising tools. In amnesties which included accounts receivable (i.e., money already known), the collection process was expedited. However, since most states waived penalties (and interest, in some cases), it is possible that some state amnesty programs actually raised less revenue than would have been collected through traditional enforcement activities.

Other states approached amnesty not so much as a source of a quick revenue windfall, but rather as a transition phase between two different enforcement stages. In this vein, amnesty was often viewed as a last chance for noncompliant taxpayers to get on the tax rolls before increased levels of enforcement went into effect, thereby helping to increase future compliance levels.

The inclusion of accounts receivable in an amnesty program distorts the relative success of amnesty. Accounts receivable cannot be considered new money. It is money that the state knows it is owed. Hence, it would be inaccurate to conclude that New York, which included accounts receivable, had a more successful amnesty than Alabama, which did not, just because New York raised more revenue. Alabama had a completely different program which must be judged solely on whether it accomplished its original goals.

In order to make amnesty accessible and affordable to more people, a number of states allowed amnesty applicants to pay back taxes and interest on an installment basis. The installment pay back strategy was introduced as a further enticement to draw long-term delinquent and nonfiling taxpayers back into the system by reducing the financial strain of lump-sum payments.

Advertising is often cited as a way of encouraging taxpayers to participate in an amnesty program, thereby increasing the revenues collected. The states which have been most successful in generating large sums of money have had substantial advertising budgets. In order to make the "last

chance to come clean" message more effective to potential applicants, states often hired outside consultants to assist them in designing and implementing an effective advertising campaign.

Total dollars collected in the state amnesties ranged from $89,000 in Illinois (first amnesty) to $401 million in New York. A total of nearly $1.5 billion has been collected by all states through tax amnesty programs. However, approximately $1.1 billion, or 73 percent, is attributable to six states (California, Illinois, Massachusetts, Michigan, New Jersey, and New York), which all included accounts receivable in their amnesty programs.

The Issue of Fairness: Public Opinion on Amnesty

Proponents of amnesty argue that amnesty performs four functions: (1) it acts as an incentive to bring noncompliant taxpayers back onto the tax rolls, thus potentially improving long-term compliance; (2) it provides a one-time windfall of revenue which can help alleviate a short-term financial shortfall; (3) it is a less costly method of collecting delinquent taxes; and (4) it provides an equitable transition period to a tougher tax regime in which penalties are more stringent and more sophisticated techniques for detecting noncompliant taxpayers are implemented.

On the other hand, some of the traditional arguments against amnesty have also centered around the question of fairness. Typically, taxpayers who participate in an amnesty are exempt from penalties and all or part of the interest on unpaid tax liabilities. This waiver is offered as an incentive to encourage taxpayers to come into compliance. In this sense, a tax amnesty rewards those noncompliant taxpayers who have worked around the system by allowing them to get by with reduced interest and/or penalties. Taxpayers who have been compliant all along, or who had to pay penalties for noncompliance in the past, may be opposed to permitting these "delinquents" to slip through the enforcement net. Moreover, some critics fear that honest taxpayers will perceive the system as being unfair and may be inclined to drop out of the system in subsequent years.

The fair treatment of all taxpayers centers around two goals—ensuring that all taxpayers satisfy their tax obligation, and penalizing those taxpayers who either do not pay their entire tax liability, or do not do so timely. Although these two goals can be met simultaneously in many cases, they seem to be at odds in the situation of an amnesty. A central issue in the amnesty debate is whether the honest taxpayer will favor the collection of tax revenue at the expense of "inequitable" treatment of taxpayers.

In recent years, the issue of public opposition to amnesty has been addressed by several surveys. In 1986, the Roper organization included an extensive analysis of the amnesty issue in its H&R Block tax study, and published the results in the report, "The American Public and the Federal Income Tax System."[3] Roper revisited the amnesty topic in 1988 and discussed the results in its subscription service publication, ***Roper Reports 88-1.***[4]

In both studies, Roper explored public opinion on ways to raise revenue in order to reduce the federal deficit (e.g., instituting a lottery, conducting an amnesty, increasing taxes on liquor and cigarettes, raising taxes on gasoline, raising taxes on personal or corporate income). A federal amnesty received high approval ratings in the 1986 study, with 48 percent of the respondents favoring an amnesty. Only one other method of raising revenue—increasing corporate income tax—received a higher rating. In the 1988 study, 71 percent favored a one-time federal amnesty for generating revenue.

The 1986 Roper study also assessed public impressions on whether those taxpayers who have been noncompliant should be encouraged to comply via an amnesty, or whether IRS should be given additional resources to identify and collect from noncompliant taxpayers. Although nearly 50 percent favored an amnesty in the context of allowing noncompliant taxpayers to correct past tax deficiencies, 4 in 10 were opposed to the idea of an amnesty. Overall, it appears that the public preference is for the government to collect revenue from other people (i.e., the noncompliant taxpayers), rather than increase the burden on compliant taxpayers. Although some people are opposed to allowing the noncompliant taxpayers to escape the enforcement net, more people would prefer that the noncompliant taxpayers be encouraged to pay their share.

Cambridge Reports, Inc., conducted a public opinion survey on amnesty in its 1986 second quarter questionnaire.[5] Fifty-nine percent of the respondents favorably viewed amnesty as a way to reduce the deficit. However, 53 percent felt that an amnesty would be unfair to those Americans who timely pay their taxes and 45 percent thought that an amnesty program would encourage future tax delinquency. These results indicate that the public supports amnesty in the context of deficit reduction, but considers amnesty to be unfair to compliant taxpayers.

By and large, the American public seems to regard amnesty favorably as a method of raising revenue and reducing the deficit. Although the public recognizes that amnesties are inherently unfair to those taxpayers who have been compliant all along, people would rather have the "delin-

quents" pay their share instead of increasing the tax burden on honest taxpayers. However, it should be noted that the public also has concerns that an amnesty could be detrimental to future tax compliance.

Amnesty Research

The proliferation of state amnesty programs has led to a number of research studies on amnesty programs. Most of the early amnesty studies looked at the elements that successful tax amnesty programs had in common, in order to identify the attributes of a successful amnesty. The successful amnesty programs included all types of tax, accounts receivable, substantial advertising campaigns, and acted as a transition between two different enforcement regimes.

Unfortunately, these amnesty studies were only partially complete because they did not include any "hard analysis" of the potential impact of amnesty on future compliance. Amnesty success was arbitrarily defined in terms of the revenue collected. As mentioned earlier, states had different goals for their amnesty programs, and the success or failure of their amnesty must be measured by the degree to which those goals were met. Most states believed that amnesty provided a means by which noncompliant taxpayers could come back on the tax rolls before an increase in enforcement activities and penalties took effect.

Analysis of the effect of an amnesty on compliance has been hampered by the lack of data. Most states did not track the type of data necessary to determine the impact on compliance. In addition, amnesty programs have taken place under a variety of conditions which also influence compliance. Even with the best available data, it would be difficult to separate the effect of amnesty from that of the threat of tougher enforcement policies. The measurement of the compliance impact is hampered further by data requirements and the methodology necessary to adjust for environmental factors such as growth and inflation.

In an attempt to overcome some of these problems, New Jersey used an alternative approach to determining the short-term success of their amnesty program in adding taxpayers to their state tax rolls. As a proxy for voluntary compliance, New Jersey looked at the amount of new money raised in comparison with the total amount of money collected in the amnesty. Approximately 35 percent of the revenue they received was considered money that they would not have received through ordinary enforcement.

Only one state attempted to estimate the longer-term increase in revenue due to the amnesty program and the new enforcement tools designed to deter noncompliance. Massachusetts monitored their amnesty program for two follow-up years to determine if revenues had increased. After backing out inflation, economic growth, and other economic and demographic factors, they were left with $564 million which they attributed to the amnesty and an increase in voluntary compliance, resulting from fear of detection by enhanced nonfiler and underreporter enforcement programs.

Fisher, Goddeeris, and Young used data from Michigan's tax amnesty program to study the impact on voluntary compliance.[6] Their analysis leads to the conclusion that there will be only a small impact on revenue from new taxpayers brought into (or back into) the system, which could be offset if amnesty affects the compliance behavior of other taxpayers. They also conclude that an amnesty program is not the most effective method of identifying nonfilers. This finding contradicts the popular notion that amnesty helps identify nonfilers.

Alm, McKee, and Jackson used a laboratory approach in determining the impact of amnesty programs on voluntary compliance.[7] Because amnesty data are not readily accessible, they used experimental techniques to simulate taxpayers' actions in a variety of scenarios based on different combinations of enforcement and expectations of future amnesties. They found that compliance declines after an amnesty; however, if an amnesty program is coupled with an increase in post-amnesty enforcement, compliance increases. This increased level of compliance is greater than if enforcement is increased on its own.

Alm, et al., also demonstrated that the promise of amnesty as a one-time proposition is not a deterrent to noncompliance. In a scenario where amnesty was offered unannounced with the promise of its being a one-time only program, compliance fell after the proposition. This result may reflect the realities associated with legislating for amnesty. Often, it is very difficult to sell the concept of amnesty in the legislature; however, once amnesty legislation is enacted, it becomes easier to enact similar legislation in the future. Prime examples are the states of Florida, Illinois, and Louisiana, which have offered amnesty more than once. Hence, promises of a one-time amnesty may be viewed as lacking credibility.

Graetz and Wilde[8] and Martin[9] have done studies in the area of amnesty participation. Graetz and Wilde used a theoretical framework to study the taxpayer's decision to participate. They demonstrate that announced increases in penalties and enforcement after amnesty increase the participation rate of nonfilers. If an amnesty is to be followed by an increase in the tax rates, nonfiler participation decreases. These observations lead Graetz and Wilde to conclude that

the best time for an amnesty, for maximizing nonfiler participation, is prior to an increase in enforcement or a decrease in the tax rates. In addition, they observed that some of the nonfilers who participated in an amnesty would have filed in the absence of amnesty. Thus, conclusions regarding the numbers of new taxpayers added to the tax rolls should account for this possibility.

Martin used data from Michigan's amnesty program in order to identify characteristics of amnesty participants who became nonfilers. Approximately 24 percent of the Michigan amnesty participants failed to file a tax return one year after the amnesty. Analysis of these taxpayers may lead to the identification of groups of taxpayers which could be targeted for increased enforcement activities following an amnesty.

Finally, Crane and Nourzad used data from California's amnesty program to examine the relationship between tax rates and tax evasion.[10] They restricted their analysis to amnesty participants who were added to the tax roles (i.e., taxpayers who had never filed a California return until the amnesty) and to those who filed an amended return. They concluded that tax evasion increases as either income or the marginal tax rate increases.

Systemic Issues to be Addressed Prior to Initiating an Amnesty

While much of the amnesty debate has focused on how an amnesty impacts taxpayers and their future compliance, Congress and the IRS should consider carefully the impact of a federal amnesty on Service operations. Even if Congress considers a taxpayer amnesty to be a reasonable solution to the problem of nonfiling and the underpayment of tax liabilities, the disadvantages of an amnesty might outweigh the expected advantages if the systemic issues are not fully anticipated beforehand. In an earlier effort, Research Division analysts contacted states regarding the implementation and management of the state amnesty programs.[11] The findings indicated that extensive preliminary planning is essential in conducting a smooth-running, effective amnesty.

The need for up-front planning would be a greater priority at the federal level because IRS' processing system is so complex. It would be important to consider how much additional staff would be required to run an amnesty, how long it would take to process all applications and returns, and whether additional appropriations would be required to hire additional staff during the amnesty. Furthermore, the amnesty would impact not only service center processing, but also other areas within IRS. Advanced planning would be required in order to prepare for the effect on these various functions. A few of the issues which would be need to be addressed in an amnesty are identified below:

Development of the Amnesty Application: *Eligibility requirements would need to be delineated so that an amnesty application could be developed for those taxpayers who request amnesty.*

Distribution of Applications and Availability of Old Forms: *Amnesty applications would need to be readily available for taxpayers who want to participate in the amnesty. In addition, Forms 1040 would need to be available for each tax period covered by the amnesty.*

Taxpayer Assistance: *The Service would need to assist taxpayers in completing the amnesty application and the returns which are filed or amended under the amnesty.*

Processing Amnesty Applications and Returns: *The Service would need to process the amnesty applications and notify taxpayers whether they were in fact eligible for amnesty. IRS also would have to process the amnesty returns.*

Computer Programming Requirements: *In addition to implementing computer programs for processing amnesty applications and returns, IRS would have to modify computer programs used by the various enforcement functions so that taxpayers filing amnesty returns are not issued erroneous notices.*

Clearly, up-front planning would be required to successfully implement an amnesty. Given the complexity of the IRS' processing system, extensive pre-planning would be necessary in order to anticipate and control for the effect of an amnesty on current IRS operations and programs. It may be the case that running an amnesty outside of the normal filing season would create the least impact on the Service.

Conclusions

Tax amnesty programs have been increasingly popular at the state level over the past decade. Amnesties at the state level generated $1.5 billion in revenue, but much of this revenue represents quick collections of accounts receivable at the "expense" of waiving penalties and, in some cases, part of the interest.

In spite of the popularity of state tax amnesties, the public seems to view amnesty somewhat ambivalently. Public opinion surveys indicate that honest taxpayers want the noncompliant taxpayers to pay their fair share. However,

many feel that amnesties are unfair to compliant taxpayers. In addition, many people think that an amnesty program would encourage future tax delinquency, perhaps as a result of the expectation of future amnesties.

Amnesty research supports the view that the promise of amnesty as a one-time proposition lacks credibility. In an experimental scenario which offered an unannounced amnesty as a one-time only program, compliance fell after the proposition. Other amnesty research suggests that any long-term gains in revenue resulting from an amnesty are small; however, tax amnesty may provide an appropriate transition period before enhanced enforcement programs go into effect.

Part of the success of state amnesty programs rests with the increase in enforcement—the carrot and stick approach. When considering amnesty at the federal level, a great deal of thought must be given to what kind of sustainable enforcement would provide the fear of detection and serve as the necessary impetus to increase compliance. In addition, the impact of amnesty on Service operations must be considered. Preparation for amnesty would require extensive up-front planning since every functional area of the IRS would be affected.

Notes and References

[1]The following states have offered taxpayer amnesty programs: Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Florida, Idaho, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Jersey, New Mexico, New York, North Carolina, North Dakota, Oklahoma, Rhode Island, South Carolina, Texas, Vermont, Virginia, West Virginia, Wisconsin, and the District of Columbia.

[2]The following states have offered more than one amnesty: Florida, Illinois, and Louisiana. In 1990, the Illinois legislature considered implementing a third amnesty program.

[3]The Roper Organization Inc. "The American Public and the Federal Tax System." ***1986 H&R Block Tax Study.***

[4]The Roper Organization Inc. ***Roper Reports 88-1.***

[5]Cambridge Reports. ***Second Quarter Questionnaire, 1986.***

[6]Fisher, Ronald C., John H. Goddeeris, and James C. Young. "Participation in Tax Amnesties: The Individual Income Tax." ***National Tax Journal.*** Vol. XLII, No. I (March 1989).

[7]Alm, James, Michael McKee, and William Beck. "Amazing Grace: Tax Amnesties and Compliance." ***National Tax Journal.*** Vol. XLIII, No. I (March 1990).

[8]Graetz, Michael, and Louis Wilde. "The Decision by Nonfilers to Participate in Income Tax Amnesties." Manuscript. California Institute of Technology. August 1990.

[9]Martin, Susan Work. "Using Amnesty Information to Detect Tax Cheats and Improve Taxpayer Service: Lessons from Michigan." ***Government Finance Review.*** Vol. 4 (October 1988).

[10]Crane, Steven E., and Farrokh Nourzad. "Tax Rates and Tax Evasion: Evidence From California Amnesty Data." ***National Tax Journal.*** Vol. XLIII, No. 2 (June 1990).

[11]A detailed discussion of the interviews with state tax amnesty experts appears in the report entitled, "Status of State Tax Amnesty Programs: Short-Term Results and Long-Term Views," Internal Revenue Service, July 1990.

1989 Examination Customer Satisfaction Survey

By James A. Wilhelm and Debbie Dorohow

A 1989 opinion survey of taxpayers contacted by Examination for the audit of an individual income tax return showed that, in general, the service they received during the audit process is highly satisfactory. The taxpayers believe they were treated fairly by the examiners that conducted their audit.

Background and Objectives

The Examination function of the Internal Revenue Service (IRS) is responsible for developing programs which carry out IRS policies in the area of auditing tax returns. Examination accomplishes these policies by encouraging taxpayers to correctly report their income and deductions.

Examination's audit program primarily involves three types of audits. Correspondence audits, which usually involve no face-to-face taxpayer contact, are handled by the nine IRS service centers and the Austin Compliance Center. Office audits and field audits, which involve face-to-face taxpayer contact, are handled at the district level. Office audits take place at the district offices, and field audits usually take place at the taxpayer's place of business.

Examination has made a commitment to provide quality service in its audit program. To determine if this commitment is being kept, IRS conducted an opinion survey of taxpayers contacted by the Examination function from May 1989 through June 1989. This article reports some highlights of the findings from this opinion survey.

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Methodology

IRS contracted Booz, Allen & Hamilton, a private consulting firm, to conduct the survey. The survey population consisted of all individual taxpayers audited by Examination through either the correspondence, office, or field audit program.

A total of 7,535 individual taxpayers whose cases were closed through a correspondence, office, or field audit were selected for the survey. Contact attempts and screening efforts revealed 957 of these cases were beyond the scope of the eligible population. Thus, the valid sample size was 6,578 taxpayers.

After extensive surveying by both telephone and mail, Booz, Allen & Hamilton obtained a total of 3,422 completed interviews. The completed interviews were distributed as follows:

- *930 office audit cases*
- *1,314 field audit cases*
- *1,178 correspondence audit cases.*

Questions asked in the survey were about taxpayers' overall evaluation of treatment by the IRS, IRS-initiated communication, taxpayer meetings with IRS examiners, taxpayer assessment of IRS-provided assistance, and IRS disclosure of taxpayer rights and responsibilities. Results are highlighted in the following sections.

Taxpayers' Overall Evaluation of Treatment by the IRS

Generally, taxpayers whose cases were closed by Examination believed they were treated fairly and with dignity and respect by the IRS. They also indicated that overall their experience was somewhat better than they expected (see Table 1 and Table 2).

Table 1
Taxpayers' Ratings of Their Treatment by the IRS

	Office Audit	Field Audit	Correspondence Audit
Fairness			
Excellent	50%	54%	44%
Average	29	23	29
Poor	18	20	23
Unsure	3	3	4
Dignity and Respect			
Excellent	62%	65%	50%
Average	23	19	30
Poor	12	13	16
Unsure	3	3	4

Table 2
Taxpayers' Comparison of Examination Experience to Expectation

	Office Audit	Field Audit	Correspondence Audit
Better	34%	33%	26%
About the Same	42	40	49
Worse	20	24	21
Unsure	4	3	4

Most taxpayers understood why the IRS employees made the requests that they did throughout the Examination transaction. Additionally, they did *not* feel that the IRS employees ignored any relevant facts in their favor.

Taxpayer evaluation of overall treatment by the IRS is related strongly to their ratings of the quality of their communications with the Service. This suggests that the quality of IRS-initiated communication and IRS-provided assistance influenced the taxpayers' perceptions of being treated fairly and with dignity and respect. Also, the clarity and courtesy of the IRS materials received by the taxpayers had a stronger impact on the taxpayer's overall evaluation than the actual message the materials communicated.

IRS-Initiated Communication

The majority of taxpayers perceived the initial contact to be both courteous and clear. From the initial contact, the taxpayers usually understood that their tax return was being audited, which year's return was being audited, and what they needed to know to settle their case (see Table 3).

Table 3
Taxpayers' Rating of the Clarity of the Initial Letter from IRS

	Office Audit	Field Audit	Correspondence Audit
Initial Letter Was Clear:			
That their tax return was being audited	84%	91%	66%
Which year's return was being audited	88	90	80
What documents and records were needed	70	73	Not Asked

Taxpayer Meetings with IRS Examiners

Taxpayers generally considered IRS examiners with whom they met to be courteous, helpful, and knowledgeable (see Table 4). They also had few complaints about the punctuality or scheduling of meetings with and by the IRS examiners. However, some taxpayers expressed frustration with IRS examiners at follow-up meetings who were not familiar with their cases.

Table 4
Taxpayers' Ratings of IRS Examiners

	Courtesy Office Audit	Helpfulness Field Audit	Helpfulness Office Audit	Knowledge Field Audit
High ratings	62%	52%	57%	52%
Average ratings	20	24	21	25
Low ratings	8	17	11	16
Unsure	10	7	11	7

Taxpayer Assessment of IRS-Provided Assistance

Taxpayers commonly want and seek assistance and information from the IRS about their Examination case. They usually telephone the IRS for assistance and information. In some instances, the taxpayer both writes a letter to the IRS and visits an IRS office to solicit assistance from the IRS. Taxpayers being examined were generally able to obtain the assistance they needed from the IRS. However, taxpayers occasionally encountered difficulties when seeking this assistance (see Table 5).

Table 5
Taxpayers' Success in Obtaining Assistance or Information

	Office Audit		Correspondence Audit	
	Phone	In Person	Phone	In Person
Obtained Assistance	87%	92%	79%	85%
Unable to Obtain Assistance	11	8	17	12
Unsure	2	0	4	3

The standard complaints of taxpayers who telephoned the IRS were that they encountered busy signals or were put on hold. Once the taxpayer reached the IRS, they may have had difficulty finding the right person with whom to discuss their case. When taxpayers wrote to the IRS for assistance, they also encountered difficulties. The typical complaint was that the IRS response to their request for assistance was delayed, or that a response was not received at all. Person-to-person contacts resulted in better success rates than did telephone contacts.

Disclosure of Taxpayer Rights and Responsibilities

Taxpayers indicated that the IRS adequately and appropriately apprised them of the outcome of their examination. Over 80 percent of taxpayers recalled receiving an audit report that explained the outcome of their case, and they stated that the audit report was usually clear (see Table 6).

Table 6
Taxpayers' Rating of Clarity of the Audit Report

	Office Audit	Field Audit	Correspondence Audit
High rating	50%	50%	39%
Average rating	35	31	37
Low rating	14	14	21
Unsure	1	5	3

Taxpayers also felt the IRS generally explained their rights adequately. Additionally, the majority of taxpayers reported that the IRS informed them of their right to privacy, right to appeal, right to speak to a supervisor, and right to disagree with the IRS decision (see Table 7).

Table 7
Taxpayers' Views on Whether or Not IRS Helped Them Understand Their Rights

	Office Audit	Field Audit	Correspondence Audit
Rights to Privacy and Confidentiality			
Yes	72%	72%	69%
No	18	17	19
Unsure	10	11	12
Rights to Appeal			
Yes	82%	79%	81%
No	10	13	12
Unsure	8	8	7
Speak to a Supervisor			
Yes	65%	67%	69%
No	24	22	21
Unsure	11	11	10
Rights to Disagree with IRS Decision			
Yes	77%	77%	76%
No	15	15	17
Unsure	8	8	7

Conclusions

Taxpayers contacted by the Examination function felt that the IRS service was highly satisfactory. Most respondents were treated courteously, efficiently, and with dignity and respect. Most taxpayers also felt the conduct of the personnel with which they came into contact was professional. The taxpayers stated that the IRS usually apprised them of their taxpayer rights. They also said their final audit report was usually clear.

A problem area that surfaced from the survey was with taxpayer-initiated assistance. A minority of respondents stated that they had trouble receiving taxpayer-initiated assistance. Booz, Allen & Hamilton recommended that the IRS should review their procedures and resources for handling Examination subjects seeking help.

As part of their fiscal year 1992 Annual Business Plan, Examination is targeting this problem area of taxpayer-initiated assistance. Examination is requesting that IRS regions and service centers develop action plans to assess and address the inability of taxpayers to contact Correspondence Examination Units regarding their examination. Examination intends to measure the accomplishments of all actions by the scheduled dates.

Opinion Survey Of Taxpayers Contacted By IRS Collection

By Shien S. Perng and Carolyn Quinn

A survey was conducted to determine taxpayer perceptions about the quality of service provided by Collection in handling their accounts during the collection process for balances due, assessments, and delinquent returns. The results showed that taxpayers rated the service provided by Collection favorably. Taxpayers said that they were treated fairly and with dignity and respect. Their experience with Collection was mostly better than they had expected. They understood what Collection wanted from them and why. They felt that Collection employees were courteous, helpful and knowledgeable. However, some areas were identified where improvements are needed.

Background and Objectives

The Internal Revenue Service (IRS) has made a commitment to provide quality service to its customers, the taxpayers. The Opinion Survey of Taxpayers Contacted by Collection was conducted as a partial fulfillment of this commitment to quantify taxpayers' perceptions of their treatment by the IRS in the collection process.

The Collection function of IRS involves activities in two major areas. The first is to collect tax balances due from taxpayers who did not remit the full amount of tax and/or penalty with their tax returns or who owe additional taxes as a result of Service-initiated enforcement actions. The second is to determine if a person or business that did not file a tax return is liable to file, and if they are, to secure the return and collect the appropriate tax. These two basic activities are undertaken for all types of tax levied by the Internal Revenue Code. In more recent years, Collection has been given authority to make an assessment of tax due, if any, for taxpayers who refuse to file a return and to examine and assess additional taxes on employment tax returns. However, the bulk of Collection's workload is related to the two major activities described above.

The first Collection contact with taxpayers to collect tax balances due or to secure delinquent returns is by written correspondence that is usually initiated by one of ten IRS service centers (SCs). The next Collection contact involves telephone calls to taxpayers who did not pay the full amount of tax due or did not file returns after correspondence contacts. Collection makes the telephone contacts through the Automated Collection System (ACS) at 21 automated callsites throughout the country. If these telephone contacts fail to resolve the cases, they are then transferred to the Collection field function in one of the Service's 63 district offices (DOs) where revenue officers make personal contact with taxpayers to collect the delinquent taxes or secure the delinquent returns.

The objectives of the Collection survey were three-fold. First, to determine taxpayer perceptions about the quality of service by Collection in resolving the delinquency situation; second, to establish baseline quality estimates to measure the effect of IRS quality initiatives for customer service; and third, to obtain suggestions from taxpayers for improving Collection service and service delivery. This article presents the methodology and findings of the survey.

Methodology

This survey covered all taxpayers with whom Collection had contact through correspondence, telephone calls, or in person. Three probability samples were selected for the survey. Sample one consisted of taxpayers with cases closed by SCs after correspondence contacts. Sample two consisted of taxpayers with cases closed by ACS, often after a telephone contact. Sample three consisted of taxpayers with cases closed by a DO.

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The three samples were selected from March through June 1989. Sample one and two were selected at the ten IRS SCs, and sample three at the seven regional quality review sites where Collection reviews cases closed in districts. The sample cases were selected shortly after they were closed.

A contractor conducted telephone interviews on sample taxpayers whose telephone numbers were available from the IRS file or from a phone directory. Taxpayers with no phone number or who refused a telephone interview were administered a mail survey. Table 1 shows the sample distribution.

Table 1
Sample Distribution and Completion Rate

	Total	DO	ACS	SC
Cases Selected	6,184	1,893	2,267	2,024
Cases Excluded	945	355	341	249
Cases Interviewed	5,239	1,538	1,926	1,775
Completed Interviews	2,900	830	1,043	1,027
Completion Rate	55.4%	54.0%	54.2%	57.9%

The overall completion rate was 55.4 percent. This completion rate is relatively low. Analyses were made to compare respondents with nonrespondents. They were very comparable in all aspects that we have data to compare, including geographic distributions, delinquency type, collection actions taken, case dispositions and range of delinquent amount. These analyses led us to believe that the survey results are reflective of the population sampled, even though the response rate is somewhat low.

A questionnaire was designed for each sample to collect information from the taxpayers about the contacts they had with the Collection function. For sample one, the questions covered issues related to the correspondence contacts, including the clarity, completeness, and helpfulness of the correspondence, what caused the contact, what the taxpayer should do, and the consequence of not responding to the notices. For sample two, the information covered both correspondence and telephone contacts, and included additional information such as the knowledge, the courteousness, and the helpfulness of the IRS employee. For sample three, the information included telephone and personal contacts. We also collected some demographic information from all taxpayers.

The findings of the survey are reported below. All percentages reported are weighted to make the sample representative of the population.

Overall Perceptions of Taxpayers

Taxpayers were asked to rate the treatment they received from the IRS employees with whom they had contact during the collection process. Table 2 summarizes the results.

Table 2
Taxpayers' Ratings on How They Were Treated by IRS Employees

	No. of Taxpayers	Percent of Ratings Low	Average	High	Unsure
Fairly					
Total	2,846	21%	27%	49%	3%
DO	791	30	25	42	2
ACS	1,034	29	27	40	4
SC	1,021	18	27	51	3
With Dignity and Respect					
Total	2,854	16	25	57	3
DO	793	21	22	55	1
ACS	1,039	21	27	48	4
SC	1,022	14	26	57	3

About 49 percent of taxpayers gave high ratings to the IRS for treating them fairly, while 21 percent gave low ratings; about 57 percent of taxpayers gave high ratings for treating them with dignity and respect, while 16 percent gave low ratings.

Taxpayers were asked whether they understood why the IRS made all the requests from them. Overall, about 77 percent of taxpayers understood the reasons for all requests to resolve their case, as shown in Table 3.

Table 3
Taxpayers' Understanding of Why IRS Made All the Requests

	Total	DO	ACS	SC
Number of Taxpayers	2,770	770	1,009	991
Understand Reasons for All IRS Requests	77%	75%	76%	78%
Some Requests Unnecessary	20	23	21	19
Unsure	3	2	3	3

When asked to compare what they experienced with what they had expected regarding their involvement with the Collection function, about 35 percent of taxpayers said that they were treated better than they had expected, and 41 percent said that they were treated the same as they had expected. Table 4 provides more details.

Table 4
Taxpayers' Comparison of Their Experience with Their Expectations

	Total	DO	ACS	SC
Number of Taxpayers	2,853	792	1,039	1,022
Compared to Expectations, Experience Was:				
Better	35%	35%	28%	35%
About the Same	41	36	42	42
Worse	20	27	26	19
Unsure	4	2	4	4

Explanation of Taxpayer Responsibilities and Rights

The survey was conducted prior to the implementation of initiatives on the Taxpayer Bill of Rights and the routine inclusion of Publication 1,"Your Rights as a Taxpayer," with Collection notices. Thus, questions related to taxpayers' rights, as well as responsibilities, were included in the survey. The following two tables summarize these results.

Table 5
Taxpayers' Views on Whether IRS Made Clear to Them The Reasons for Contacts and Consequences

	DO	ACS
What The IRS Wanted From Taxpayer	81%	80%
Why The IRS Wanted It	*	78
What Happens If Taxpayer Does Not Cooperate	75	72

* This question was not included in the DO questionnaire

Roughly, 80 percent of taxpayers whose case were closed at a DO or ACS callsite said that the IRS made it clear what they wanted from taxpayers during the contact. It was slightly less clear why the IRS wanted it (78 percent for ACS cases) and what would happen if the taxpayer did not cooperate (75 percent for DO cases and 72 percent for ACS cases).

Table 6
Taxpayers' Views on Whether or Not IRS Helped Them Understand Their Rights

	Total	DO	ACS	SC
Rights to Privacy and Confidentiality				
Yes	43%	45%	35%	50%
No	45	48	60	42
Rights to Appeal				
Yes	53	46	38	56
No	41	48	57	38
Rights to Disagree with IRS				
Yes	50	44	39	52
No	44	51	55	41
Right to Speak to a Supervisor				
Yes	40	36	29	42
No	52	58	64	50

Note: The response of "Unsure" is not included in the table.

About 45 percent of taxpayers felt that the IRS did not help them understand their rights to privacy and confidentiality. About 41 percent and 44 percent, respectively, felt that the IRS did not help them understand their rights to appeal, and their rights to disagree with the IRS.

About 52 percent of taxpayers felt that the IRS did not help them understand their rights to speak to a supervisor. The survey also showed that about 20 percent of taxpayers with a DO or ACS case asked to speak to a supervisor, of which about 43 percent were refused.

Since the survey, Publication 1 has been included with Collection notices to inform taxpayers of their rights. Thus, future surveys should show significant improvement in this area.

Service-Initiated Communications

Of those taxpayers who received a SC letter or notice, 66 percent said the letter or notice contained all the information needed. Of those taxpayers who indicated the information was insufficient, 21 percent said that the letter or notice did not tell them where to get help or more information, 16 percent said it did not tell them how IRS calculated the amount due, and 11 percent said it did not tell them exactly what the IRS was requesting.

Table 7 summarizes taxpayers' ratings on several aspects of the IRS-initiated contacts from service centers and ACS callsites.

Table 7
Taxpayers' Ratings on Service-Initiated Contacts

	No. of Taxpayers	Percent of Ratings			
		Low	Average	High	Unsure
Clarity of:					
Notices	868	20%	33%	43%	5%
Other Materials	271	15	33	44	8
Certified Letter	469	22	29	44	6
Courteousness					
ACS Phone Calls	284	22	20	54	4
Helpfulness of:					
Notices	885	24	37	36	3
Other Materials	277	19	37	39	5
Certified Letter	472	32	33	29	6
ACS Phone Calls	284	29	22	46	4

About 43 percent of taxpayers gave high ratings on the clarity of IRS notices, while 20 percent gave low ratings. About 36 percent of taxpayers gave high ratings on the helpfulness of IRS notices, while 24 percent gave low ratings. The ratings on other supplementary materials are slightly better in terms of both clarity and helpfulness.

About 44 percent of taxpayers gave high ratings on the clarity of ACS certified letters, while 22 percent gave low ratings. Only 29 percent of taxpayers gave high ratings on the helpfulness of ACS certified letters, while 32 percent gave low ratings.

About 54 percent of taxpayers gave high ratings on ACS telephone contacts with respect to courtesy, while 22 percent gave low ratings. About 46 percent of taxpayers gave high ratings on ACS telephone contacts with respect to helpfulness, while 29 percent gave low ratings.

Seeking Assistance from IRS

About 82 percent of 1,041 ACS cases and about 77 percent of 1,024 SC cases attempted to contact the IRS for assistance or information. Most of them called by phone. Table 8 provides more details.

Table 8
Methods of Seeking Assistance by ACS and SC Cases

	ACS	SC
Number of Taxpayers	853	748
Call IRS on Phone	93%	85%
Write IRS Letter	48	65
Visit IRS in Person	27	22

When taxpayers attempted to contact IRS by phone, they experienced difficulties. Table 9 summarizes these results. About 47 percent of taxpayers who called ACS and about 45 percent of taxpayers who called SC for assistance or information experienced difficulties. The main problems were busy signals, being put on hold, or getting " the run-around from person to person."

Table 9
Difficulties Seeking Assistance from ACS and SC by Phone

	Total	ACS	SC
Total Callers	1,428	797	631
Experienced Difficulties	45%	47%	45%
Types of Difficulties			
Number Answered	340	199	141
Busy Signals	20%	20%	20%
Placed on Hold	10	11	10
Got Run Around	7	12	7
Could not Find Right Person	5	7	5
Other	6	5	6

Taxpayers might call or visit an ACS site, call a SC seeking assistance or information, or meet with a district office employee—generally a revenue officer. Table 10 summarizes their ratings on employees they contacted with respect to courteousness, helpfulness and knowledge.

Table 10
Taxpayers' Ratings of IRS Employees Providing Assistance or Information

	No. of Taxpayers	Percent of Ratings Low	Average	High	Unsure
Courteousness					
ACS by Phone	736	18%	25%	55%	2%
ACS in Person	214	16	17	63	5
SC	555	11	23	62	4
DO	787	16	20	63	2
Helpfulness					
ACS by Phone	736	24%	27%	48%	2%
ACS in Person	214	26	17	53	4
SC	561	18	31	48	4
DO	791	21	25	52	2
Knowledge					
ACS by Phone	736	21%	26%	49%	3%
ACS in Person	214	16	26	52	5
SC	553	20	28	48	4
DO	790	18	22	57	4

The table shows that IRS employees were rated high in all aspects. However, they were rated higher with respect to courteousness than with respect to helpfulness and knowledge.

The survey also showed that, regarding contacts with revenue officers, most taxpayers were satisfied with the meeting location (68 percent), number of follow-up meetings (68 percent), length of time between meetings (79 percent), and convenience of time (83 percent). About 39 percent of taxpayers met with more than one revenue officer over the duration of the case, of which 56 percent had to explain things over again.

When taxpayers wrote to ACS and the SC for assistance or information, they often did not receive a response. Table 11 summarizes the length of time that taxpayers waited to receive a response from the IRS to a written request for assistance. About 36 percent of taxpayers who wrote ACS reported never receiving a response from the IRS.

Table 11
Length of Wait for IRS Responses to Written Requests for Assistance from ACS and SC

	ACS	SC
Number of Taxpayers	379	469
Length of Wait (Days)		
Never Received Response	36%	16%
More Than 60 Days	8	8
31 to 60 Days	10	14
15 to 30 Days	24	29
Less Than 15 Days	15	25
Unsure	8	8

When taxpayers wrote to ACS and the SC seeking assistance or information, they often received a written response (78 percent from ACS and 89 percent from the SC). Table 12 summarizes taxpayers' ratings of IRS responses (by phone or in writing).

Table 12
Taxpayers' Ratings on IRS Responses to Written Requests for Assistance from ACS and SC

	No. of Taxpayers	Percent of Ratings			
		Low	Average	High	Unsure
Helpfulness					
ACS	244	36%	26%	35%	2%
SC	369	22	32	44	3
Clarity					
ACS	242	25	29	44	3
SC	363	20	27	51	4
Courteousness					
ACS	242	19	31	48	3
SC	363	11	27	58	5

About 44 percent of taxpayers gave high ratings to the helpfulness of the SC responses to written requests for information or assistance and 22 percent gave low ratings. About 51 percent of taxpayers gave high ratings to the clarity of the SC responses to written requests for information or assistance and 20 percent gave low ratings. ACS assistance consistently scored worse that SC assistance on helpfulness, clarity, and courteousness.

Taxpayers' Suggestions

One of the survey objectives was to solicit taxpayer suggestions for improving the Collection program. Table 13 shows the results.

Table 13
Taxpayers' Suggestions for Improving the Collection Program

	Total	DO	ACS	SC
Number of Taxpayers	2,637	765	946	926
Better Communications between IRS and Taxpayers	20%	16%	15%	21%
Other Communications Issues	12	7	14	13
Sensitivity of IRS Employees	8	12	11	7
Knowledge of IRS Employees	7	9	8	7
Faster, More Efficient Service	5	7	5	5
Same Employee Handle the Case	5	5	7	5
Courtesy of IRS Employees	4	8	5	4
Flexible Payment Schedules	4	5	5	4
Unsure/None	31	31	31	3

Conclusions

The survey results show that taxpayers rated the service provided by Collection favorably. Taxpayers said that they were treated fairly and with dignity and respect. Their experience with Collection was usually better than they had expected. They understood what Collection wanted from taxpayers, and why they wanted it. Employees were courteous, helpful and knowledgeable. Some areas were identified, however, that needed improvement. These are shown below:

- *Improve notices, ACS certified letters, response letters, and related materials with respect to helpfulness and clarity.*
- *Do a better job making taxpayers aware of their rights.*
- *Review procedures about taxpayers' requests to speak to a supervisor, and become more responsive to such requests.*
- *Look into installing a system to ensure that written inquiries about Collection issues are answered properly.*
- *When a revenue officer is replaced while working on a case, the new revenue officer needs to be thoroughly briefed on the case before meeting the taxpayer.*

Follow-up Actions

Collection selected a team to improve the ways that they do business and to eliminate the problems that were identified in the survey. While some problems can be solved or fixed rather quickly, others will take some time and require procedural changes. Specific areas being addressed are as follows:

- *Collection is reviewing notices and letters sent to taxpayers and revising them to clarify the communication.*
- *Collection is considering "highlighting" some material on notices and letters.*
- *IRS Publication 1, "Your Rights as a Taxpayer," which includes information about taxpayer rights to speak with a manager, is included in first notices, in accordance with the Taxpayer Bill of Rights. Collection will continue to include references to this right in training.*
- *Collection is working with Returns Processing in developing a system to more efficiently handle correspondence with taxpayers.*

- *Collection has revised its manual of employee procedures to require that the revenue officer taking over another employee's case be thoroughly briefed before meeting with the taxpayer.*

Meanwhile, Collection is conducting a second survey, similar to this one. Results will be compared to the baseline data, and improvement will be evaluated. Plans include repeating the survey about every two years to continue evaluating responsiveness to customers and Collection's improvement from the initial measures.

Trends in the Problem Resolution Program

by Alan Kravetz

Although many of the successes of the Problem Resolution Program (PRP) cannot be measured statistically, the history of this program shows its definite value to the Service. PRP has demonstrated success in resolving taxpayer problems with the Service and in preventing future problems for taxpayers.

Background

The Taxpayer Ombudsman is responsible for planning, developing and directing the Problem Resolution Program (PRP). In addition to administering and evaluating the nationwide Problem Resolution Program, the Taxpayer Ombudsman also serves as an advocate for taxpayers within IRS, representing their interests and concerns during major program and policy deliberations and providing them a platform to communicate the problems they encounter with the tax laws, regulations, or internal procedures.

The Problem Resolution Program has three major goals:

1. to provide an independent, effective complaint-handling system for taxpayers with problems that have not been resolved through normal channels;

2. to determine the causes of these problems so that systemic, procedural or organizational problems can be identified and corrected, thereby preventing future taxpayer complaints; and

3. to serve as an advocate for taxpayers within IRS, representing their interests and concerns in the agency's decision-making process.

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The complaint-handling part of Problem Resolution assures that, when normal procedures fail, taxpayers have access to someone who will make sure their problems are not lost or overlooked. Each case that meets PRP criteria is documented on a special form and entered into a control system. The case is then assigned to the IRS function responsible for the type of problem involved (e.g., Collection, Taxpayer Service, Examination), and is monitored until the problem is resolved. Throughout the time a PRP case is open, the taxpayer is kept informed about the status of the problem and every effort is made to resolve cases as expeditiously as possible. If a case cannot be resolved within five workdays, the taxpayer is contacted, advised the status of the case and given the name and telephone number of the employee responsible for resolution of the case.

Analyzing the causes of problems and advocating for taxpayers' interests and concerns are major parts of the Problem Resolution Program. The Taxpayer Ombudsman's staff works with other parts of the Service to identify the causes of taxpayer problems and to develop solutions. A member of the staff participates on the IRS' Tax Forms Coordinating Committee, representing taxpayers' interests and views in the design of Federal tax forms and issuance of clear and simple instructions. Other members review internal management documents that may affect taxpayers and newly enacted legislation or legislative proposals sent to the IRS for comment, to identify those areas that may be confusing to the public or that may create an unfair burden and recommend changes when needed. Staff members also participate in studies and planning meetings with other Service functions to represent the taxpayers' point of view. Advocacy and problem analysis activities are also carried out by PRP staffs in districts and service/compliance centers.

Development of the Problem Resolution Organization

In the mid-1970's, the Service became concerned that some taxpayer problems were not being resolved promptly or properly. Since that time IRS has made various incremental organizational changes so that today there is a Taxpayer Ombudsman who is responsible for the direction of the Problem Resolution Program which is fully operational in all 63 districts, the 11 service/compliance centers, and the Office of the Assistant Commissioner (International), with regional and National Office staffs to oversee the program. Each PRP office has a small staff to manage the program, while casework is performed in the function with responsibility for the type of problem involved. Problem Resolution Program Coordinators (PRPC) serve as links between the PRP office and the functions. Every office (districts, centers, regional and national offices) has PRPCs in each function who are responsible for administering the program in their organizations and assisting the Problem Resolution Officers (PRO) and PRP staffs with advocacy and systemic analysis activities.

Taxpayer Bill of Rights Legislation

The Omnibus Taxpayer Bill of Rights Act, which was signed into law in November 1988, gave the Taxpayer Ombudsman the authority to issue Taxpayer Assistance Orders (TAOs). This authority was delegated to Problem Resolution Officers, as field representatives of the Ombudsman. TAOs may be issued when, in the judgement of the Ombudsman or PRO, a taxpayer is suffering or is about to suffer a significant hardship as a result of an IRS action or inaction. A TAO can order the function handling the taxpayer's case to take appropriate steps to relieve the hardship. The order can also suggest alternative actions to resolve the problem. Requests for such relief may be made by taxpayers, their representatives, or by IRS employees on behalf of taxpayers. During fiscal year (FY) 1989, PRP processed 12,083 applications for TAOs (ATAOs); during FY 1990, 17,673 applications were processed.

How PRP Has Fared — Casework and Other Statistics

Figure 1 shows the number of taxpayer problems resolved by PRP since its inception. It illustrates that the program grew steadily in its early years then hit a peak during FYs1985 and 1986, when the Service encountered major processing problems with a new computer system. Since then, the number of problems has declined to about 400,000 per year and remained at that level.

A number of factors, often working in different directions, impact on the number of cases that PRP receives each year. Quality improvements in the Service's processing of returns, handling of payments and credits, and responsiveness to taxpayer inquiries should reduce the number of cases that meet PRP criteria. On the other hand, improved identification of PRP cases by Service employees increases the volume of PRP cases. It appears that these factors, working together, have kept the number of PRP cases handled each year at approximately the same level since FY 1986. However, a system to measure the total number of cases in service centers that meet criteria and therefore should be identified as PRP cases is currently being tested; a separate measuring system is also being discussed for Taxpayer Service. If tests of these systems are successful, we will have a better measure of the true number of problems that meet PRP criteria.

PRP objectives have continually emphasized *prompt resolution of problems*. The percentage of cases closed within 30 days provides an indicator of the promptness of case resolution. Figure 2 shows that emphasis on this objective has been achieving the desired results. There was steady progress in this area until the setback of the two processing problem years (FYs 1985 and 1986). Since then, the progress has been so strong that PRP caseworkers are now resolving a higher percentage of cases within 30 days than ever before.

As a check against premature case closings before all necessary actions have been taken, the number of cases that must be reopened is also measured and is compared to the number closed. This area is also emphasized in PRP's objectives. The percentage of reopened cases has been decreasing.

By determining the causes of taxpayer problems and serving as advocates for taxpayers, Problem Resolution prevents future problems. When systemic, procedural or organizational problems are identified, they are reported through channels to the responsible organization and are monitored to assure that corrective actions are taken. In order to assist in the identification of systemic, procedural and organizational problems, PRP cases are coded by type of issue or problem. The coding system has undergone major revisions since 1977, with the current system dating to the beginning of FY 1985. This system categorizes PRP cases by type of return, the source of the problem (the taxpayer, IRS or both), and why the problem became a PRP case. Taxpayers can cause problems by making a mistake on a tax return, failing to comply, or improperly completing a payment document (check or federal tax deposit coupon). The IRS can cause problems by untimely or incorrectly processing tax returns or payments, by failing to act on taxpayer correspondence, and by inappropriately using compliance activities. Cases are also coded to indicate the type of action taken to resolve the problem. The following figures show the percentage of

Figure 1

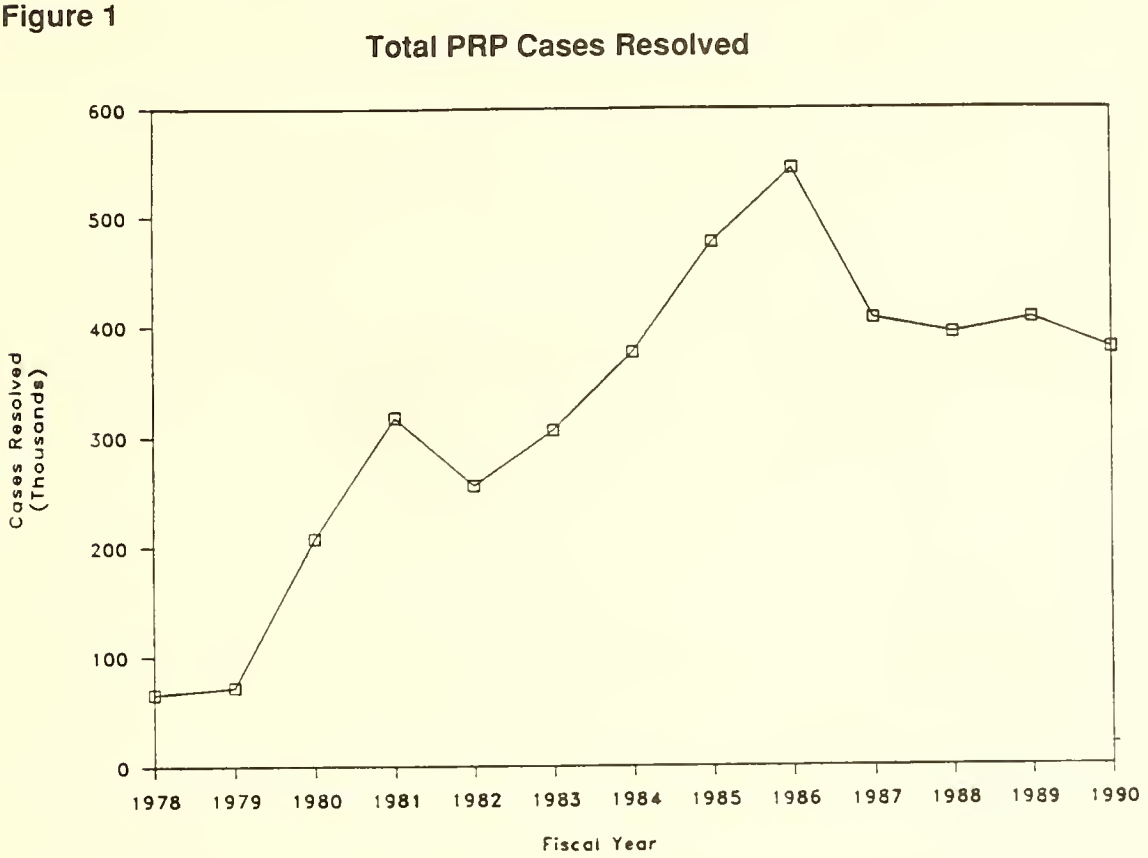


Figure 2

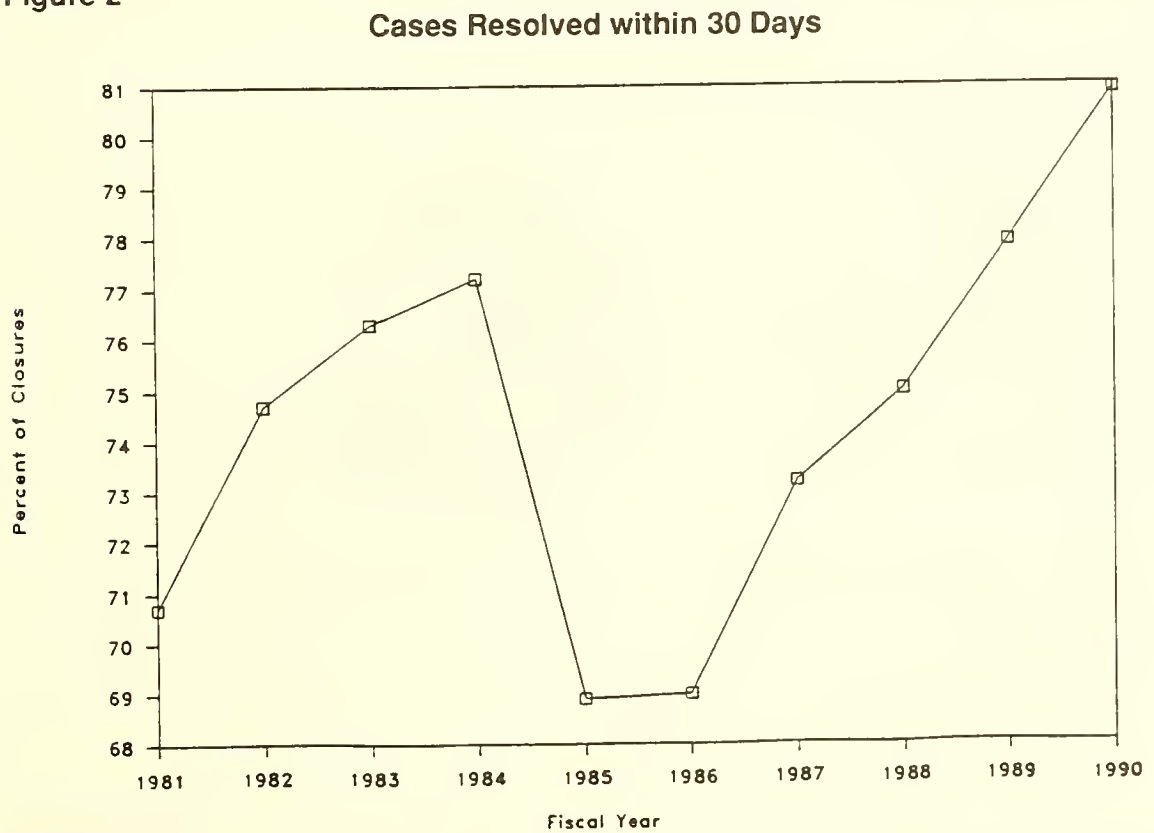


Figure 3 Types of IRS-Caused Problems Resolved by PRP, FY 1985 vs FY 1990 (Percent of Total Issues, Excluding Miscellaneous)

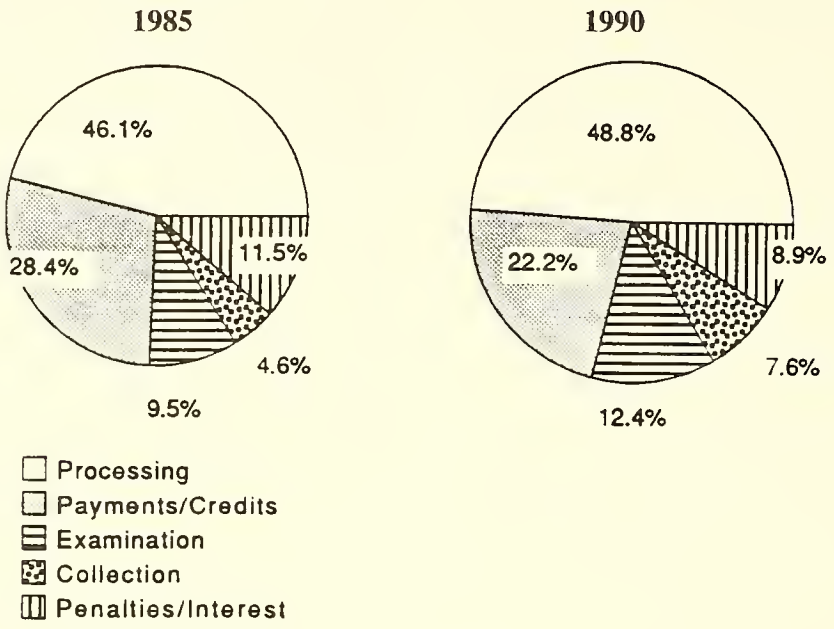
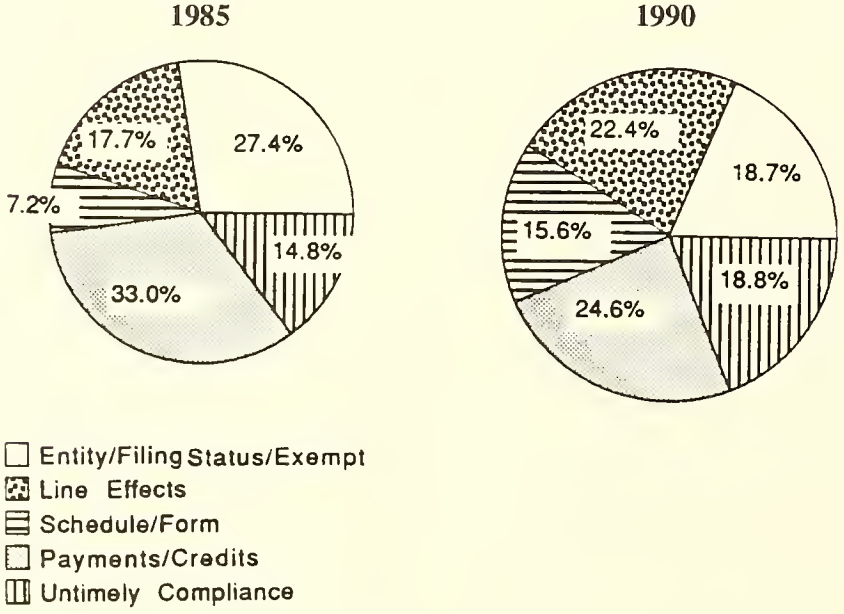


Figure 4 Types of Taxpayer-Caused Problems Resolved by PRP, FY 1985 vs FY 1990 (Percent of Total Issues, Excluding Miscellaneous)



closed PRP cases by type of problem. Figure 3 presents a comparison of types of IRS-caused problems for FYs 1985 and 1990, while Figure 4 presents a corresponding comparison for taxpayer-caused problems.

Much of PRP's advocacy and systems analysis efforts have concentrated on improving the processing of payments and credits. The data in Figures 3 and 4 indicate that these efforts have led to a reduction in PRP cases involving payment and credit problems. During FY 1985, payment and credit problems accounted for approximately 28 percent of the IRS-caused problems on PRP cases and about 33 percent of the taxpayer-caused problems. During FY 1990, these percentages were reduced to approximately 22 percent and 25 percent, respectively.

How PRP Has Fared—Advocacy and Problem Analysis

The following list contains a selection of some of the more significant actions PRP has taken to improve IRS operations. Because the IRS programs involved are usually affected by many other events occurring simultaneously, it would be very difficult to measure the specific number of taxpayer problems prevented as a result of these actions.

1. Revised procedures for handling taxpayers' payments and credits to reduce errors.

2. Established liaisons with other government agencies to assist in resolving taxpayer problems, such as lost and stolen refund checks and incorrect social security numbers.

3. Made numerous changes to the tax return instructions to make them easier to understand and to point out steps taxpayers can take to prevent problems. For example, suggested added language to advise newlywed taxpayers or others who change their names to report the name changes to the Social Security Administration, to prevent delays in tax refunds and other tax problems.

4. Worked with Taxpayer Service, Collection, Examination and Returns Processing to develop audit reconsideration procedures. In the past, no national procedures existed, so that the ability to obtain an audit reconsideration was dependent upon where the taxpayer lived.

5. Recommend giving IRS the authority to abate interest caused by IRS delays, which resulted in a new tax law provision included in the 1986 Tax Reform Act.

6. Developed safeguards for levies on retirement income.

7. Developed a taxpayer survey form to obtain comments about IRS service, which is distributed at IRS walk-in and receptionist areas.

8. Recommended that Tele-Tax assistance messages include information about common taxpayer errors.

9. Changed procedures for processing exempt organization returns to prevent the assertion of unwarranted late filing penalties.

10. Worked with state unemployment offices to help make recipients aware that unemployment compensation becomes taxable with the Tax Reform Act of 1986.

11. Eliminated the taxpayer burden of sending documentation with the income tax return to support foreign tax credit claimed.

12. Developed procedures to speed the issuance of employer identification numbers in district offices.

13. Coordinated a national effort to provide relief for the victims of Hurricane Hugo and the California earthquake, and later coordinated development of permanent procedures for assisting disaster victims.

Conclusion

The Problem Resolution Program has proven to be a very effective program that benefits both taxpayers and the Service and has led the way for many of the Service's quality improvement efforts. Its success demonstrates that the IRS can be responsive to taxpayers and provide the kind of quality service they expect.

Applying Sociotechnical Work System Design Principles in the IRS

By B. P. Robert Stephen Silverman

The term sociotechnical work system design refers to the consideration of both human behavior and production requirements in planning operational processes for organizations; in other words—looking at the organization as a system, with the social and technical aspects of it as equivalent components, to ensure quality in products or services for customers and quality in work life for employees. The Human Resources Technology staff provides consultation to senior Internal Revenue Service (IRS) managers on applying sociotechnical work system design principles to tax system modernization projects. Applying these principles involves: (1) determining the impact of automation on individual positions, organizational structures, policies, and procedures; (2) managing the process of change and job related stress; (3) creating end-user participation in system planning, design, evaluation, and enhancement; and (4) allowing for ergonomic factors in automated system design, office layout, and environment.

Background

Sociotechnical work system design implies equal consideration to human and technological factors in organizations. That means taking into account both group dynamics and ergonomics to better manage the interface between employees and computers. Group dynamics show how an informal organization supports a formal organization; and how human factors influence the way employees fulfill their needs both individually and collectively. The issue of ergonomics addresses how to best adapt the physical environment for human use. The focus of ergonomics ranges from muscular and visual to psychological considerations.

The Human Resources Technology staff is applying sociotechnical work system design principles to such tax system modernization projects as the Automated Inventory Control System, the Document Processing System, the Cash Management System, the Taxpayer Service Integrated System, Corporate Systems Modernization Transition, Corporate Files On-Line, the Secured Corporate Data Network, the Executive Management Support System, the Service Center Support System, and the Service Center Recognition Image Procuring System.

For example, with the Automated Inventory Control System project, the Human Resources Technology staff assisted in conducting an organizational impact analysis. The Automated Inventory Control System is a tax system modernization initiative that will provide a tool for controlling taxpayer correspondence, prioritizing the correspondence, and assisting tax examiners in adjusting accounts and responding to the taxpayer. The capabilities of the system also provide an opportunity for the transformation of the way taxpayer correspondence is processed and of the work systems within the non-pipeline process. To address human factors that will be affected by automation, a cross-functional team examined work flow, job design, organizational structure, recruitment, performance measurement, training, ergonomics, work stations, site preparation, system security, imaging, redeployment, and labor relations. The organizational impact analysis found that the project should engage in a work system design process; and that recommendation is being implemented with the assistance of the Human Resources Technology staff.

Organizational Environments

Sociotechnical work system design principles can be applied in almost any organizational environment. For example, suppose an automation initiative was introduced in a division of IRS that resulted in immediate identification of telephone calls placed to private businesses and residences as a by-product, and that the particular type of work performed in that division seldom made it necessary to place calls outside of IRS. It is understood that government telephones are provided for use in conducting official business only, and are not intended for personal calls. But, application of sociotechnical work system design principles would recog-

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nize that employees have occasional need to make personal calls, and that inability to enforce prohibitions against personal use of government telephones has inevitably conditioned many employees to rationalize justification for their occasional personal use.

Immediate identification of personal telephone calls could possibly result in many employees experiencing stress, possible conflicts, and even adverse actions. The division may even encounter increased difficulty in recruiting and retaining employees because of that. But, taking this human factor into account in designing the work system increases the likelihood that those negative impacts could be avoided—perhaps with the addition of a pay telephone or even allowances for employees to make a limited number of personal calls.

Many automation initiatives produce by-products exerting an impact on the human factors that determine how effective a job will be accomplished. Immediate identification of personal telephone calls is a very typical example of how the work environment may change in an unanticipated way as a by-product of an automation initiative. An organizational impact analysis may find that such a change would inject a negative tone that would be counter-productive to the anticipated benefits of the automation initiative. In that case, the return on investment would be minimized.

Organizations typically introduce automation into an environment where employees process paperwork manually. A new requirement for employees to work at a terminal for extensive periods could result in back problems, blurred vision, fatigue, general discomfort, and—if the employees are not properly trained—job related stress. Overlooking these potential problems could result in lower quality products and services for customers; and lower quality work life for employees. Sociotechnical work system design principles can enable employees to serve as catalysts to resolve these problems.

The process of sociotechnical work system design involves environmental, technical, and social analyses. Frequently, the three analyses yield a common thread. For example, the environmental analysis may determine that decreasing unemployment levels have drastically reduced the number of available candidates for secretarial positions. The technical analysis may determine that a backlog in word processing operations has imposed a constraint for timely response to correspondence. The common thread would emerge in the social analysis from findings that high-salaried employees have to type their own correspondence; and that would be because of the backlog created by inability of the organization to fill secretarial vacancies.

Inertia keeps an organization from moving and changing to any significant extent on its own without a push from some force in the environment. Frequently, advances in technology impose such a force. The pushing activity within an organization creates a change in the environment of every employee. In constantly pushing to keep the organization up with technological advances, the environment may exert a positive or negative effect on employee motivation and morale. Advances in technology have the potential to exert a positive effect by enhancing the status of the individual, the organization, and society as a whole; and a negative effect by imposing a threat to render some employees no longer able to perform at an acceptable level. Sociotechnical work system design is intended to prevent the latter by creating an environment in which employees can efficiently adapt to automation initiatives.

Willingness of managers to share their authority with subordinates tends to result in a positive environment reinforced by individual commitments and team building. Maintenance of a positive environment requires a compelling type of leadership that inspires innovation and creativity. The new generation of employees no longer responds to the bureaucratic type of management that seeks only to preserve the status quo. Attracting and retaining top quality employees demands a new approach. Employees demand a meaningful experience from their work and will look elsewhere for employment when they do not receive it.

All organizations are different, so each automation initiative must be tailored individually to fit the needs of particular organizational environments. Application of sociotechnical work system design principles tends to result in expansion of individual areas of responsibility to enrich each employee's job. When organizational structures are not reshaped and renewed in response to changes in the environment, managers have limited opportunities to expand their subordinates' areas of responsibility. Expanded areas of responsibility increase the likelihood that each employee will find interesting work—the vital link to job satisfaction. Any job can be redesigned so that it is potentially interesting. Satisfied employees are more likely to feel that their organizations' objectives are of significance, and that their work contributes in some unique way to fulfillment of those objectives.

The Human Factors of Automation

Automation presents employees with the opportunity to learn new knowledge, abilities, and skills—skills that can enable them to perform different types of work than they presently do. Regardless of the organizational setting, many employees believe that they could accomplish much more than they do; but, they feel constrained by bureaucratic organizational structures. As employees gain knowledge

about their work, there is a tendency for them to want more control over it. As employees develop abilities, there is a tendency for them to feel in charge of their own destinies. And as they acquire skills, there is a tendency for them to perceive themselves as individuals.

Employees need to know they are contributing. They need to participate. They need their suggestions for change and innovation taken seriously. There is a trend in the business world to move away from rigid uniformity and routinization out of respect for individual differences in the needs of employees. When employees are given responsibilities and not just duties, what they do is not the same every day; and that, in itself, is a huge step away from rigid uniformity and routinization. The Internal Revenue Service is also taking the lead in moving away from uniformity and routinization. Because of a project management approach toward tax system modernization, IRS employees have an increased opportunity to acquire a broader range of experiences that will qualify them to compete for even greater opportunities in the future.

The tangible participation needed to achieve synergism in an organization can be achieved by creating decentralized organizational units, task team temporary work assignments, and special ad hoc groups—a matrix management that drastically alters traditional organization structures in cutting radically across delegated lines of authority to foster fast-moving dynamic thinking. Sociotechnical work system design may involve a restructuring of individual jobs and organizational roles to maximize use of employee knowledge, abilities, and skills in achieving organization goals; and jobs can be restructured to permit employees to utilize their total intellects and creative abilities. Increasing the scope of employee involvement can decrease the likelihood that any will perceive themselves as unimportant parts of a bureaucracy.

Employees do not generally seek to dictate organizational policy; but, they do want to contribute to the process of formulating it. They believe that, as members of the organization, they should have some voice in making decisions that affect them and the results of their labor. By working under a system that allows management and employees to jointly establish both organizational and employee goals, objectives will emerge that are relevant, but with a margin of spontaneity that allows for both individuality and growth.

Redeployment of Personnel

It is IRS policy that no employee shall be separated or down graded as a result of automation. But any resultant redeployment of personnel can be perceived by employees as an adverse threat that could render them unable to perform their jobs satisfactorily. Sociotechnical work system design can create a situation that minimizes this possibility by preparing both management and subordinates for the automation before it happens and creating an environment that continually changes in response to their needs. Instead of reacting to tax system modernization as a cause of potentially adverse personnel redeployment, sociotechnical work system design enables both management and employees to utilize automation as an opportunity for mutual benefit.

Continuous training can enable employees to mesh in harmony with job requirements that change in response to changes in the environment. This enhances the ability of an organization to achieve total quality management. With an emphasis on quality, employees assume responsibility for making their jobs constructive vehicles for innovative and creative self-expression, and employees realize meaningful experiences not only from their work, but from their development. Instead of viewing impending automation as a threat, employees see it as part of their life-long education. That requires a widening range of responsibilities with a loosening of control over them. Employees need to operate in their own individual ways without interference, bringing only exceptional matters to the attention of their supervisors. That type of environment makes an employee feel important, needed, and trusted; and it allows for an individual's knowledge, abilities, and skills to interact synergistically.

Sociotechnical work system design can minimize conflict by reducing resistance to change through increased input into decision-making by employees. Automation initiatives cannot be effectively planned apart from human factors; and a sociotechnical work system design provides the means by which it can be achieved. In an environment of irresistible change generated by innovative advances in technology, conflict is likely to arise between the forces behind automation initiatives and those who perceive it as an unnecessary risk. Innovations present an element of risk. Some people cannot tolerate risk-taking. Their value systems revolve around preservation of the status quo; so they react to change as a problem instead of an opportunity. When employees attempting to achieve innovation through automation encounter members of the same organization attempting to preserve the status quo, the resultant conflict is analogous to a clash between irresistible and immovable forces.

Managing the Process of Change at IRS

The question of "What happens when an irresistible force collides with an immovable force?" will not be answered in IRS; and that is largely because sociotechnical work system design principles are being applied to tax system modernization projects. Because IRS has taken the lead in applying sociotechnical work system design principles, the potentially irresistible force of automation will be adapted for human factors. Therefore, what could have been an immovable workforce will be able to adapt to the change. This in turn, will make the Service more able to meet the challenges of tax administration in the fast-paced environment of technological change in the coming years.

Section III *Research Abstracts*

Office of the Assistant Commissioner (Collection)

Office of the Assistant Commissioner (Examination)

Office of the Assistant Commissioner (Planning and Research)

Office of the Assistant Commissioner (Collection)

Choi, Helen

"Growth of Total and ACS TDA Inventory"

January 1990
Operations Research Section
CO:E

Although the dispositions-to-issuances ratio for ACS TDAs has remained relatively stable over the past five fiscal years, the ACS TDA inventory has almost doubled since the beginning of fiscal year 1987.

At the beginning of 1990 we examined the growth of the taxpayer delinquent account (TDA) inventory over the past several years. We had completed an earlier study which analyzed the activity of deferred tax modules and evaluated the impact of increasing the TDA deferral levels. The purpose of this later analysis was to update our data. From September 1986 to December 1989 total TDA inventory increased 76 percent and the ACS TDA inventory almost doubled. From December 1984 to December 1989 the average increase per quarter was 3 percent for all TDAs and 4 percent for ACS TDAs. During this same period the average increase per year was 15 percent for all TDAs and 23 percent for ACS TDAs. Despite the significant growth of the TDA inventory in ACS, the dispositions-to-issuances ratio remained relatively stable over the past five fiscal years (average of 61 percent). The full paid dispositions-to-issuances ratio also remained relatively stable over the past five fiscal years (average of 38 percent).

Colson, Jeffrey T.

"Anticipated Future Expirations of Accounts in Currently Not Collectible Status"

January 1991
Operations Research Section
CO:E

Approximately 50 to 53 percent of the modules and 52 percent of the original uncollectible amount eventually expire for IMF, and approximately 83 to 87 percent of the modules and 84 to 85 percent of the original TC 530 amount expire for BMF.

This study was completed at the request of the Accounts Receivable Dollar Inventory (ARDI) Task Force Seven. The data were from the master files, both individual (IMF) and business (BMF), for tax years 1982 through 1988. The percentage of modules that go to statute expiration and the percentage of the original Currently Not Collectible (TC 530) amount that expires show a sharp increase four years after being reported not collectible for both IMF and BMF. Approximately 50 to 53 percent of the modules and 52 percent of the original TC 530 amount eventually expire for IMF. For BMF, approximately 83 to 87 percent of the modules and 84 to 85 percent of the original TC 530 amount expire.

Collection

Colson, Jeffrey T.

"Collection Research File (CRF) Trend Report: BMF Currently Not Collectible Modules (Extract Cycle 8939)"

February 1990
Operations Research Section
CO:E

The average module dollar amount reported not collectible has increased from 1982 to 1987 from $2,842 to $5,892 and from seven to nine percent of the original CNC amount is collected after six years.

In 1988 the Currently Not Collectible (CNC) extracts were greatly expanded. This report was intended to familiarize the reader with the basic data elements available on the CRF for business (BMF) CNC modules. We found that the average module dollar amount reported not collectible has more than doubled from 1982 to 1987, going from $2,842 to $5,892. Data for 1982 through 1984 indicate that from seven to nine percent of the original CNC amount is collected after six years. The number of modules per account reported not collectible is increasing over time.

Colson, Jeffrey T.

"Comparison of Accelerated TDAs to Regular Processing"

December 1990
Operations Research Section
CO:E

There is no evidence that accelerating delinquent accounts to the field improves collectibility.

This analysis compared large dollar Form 941 (Employer's Quarterly Federal Tax Return) taxpayer delinquent accounts (TDAs) that were accelerated to the Collection Field function to similar TDAs that were not accelerated to the Field. The data were from the master files for tax years 1986 through 1989. The rate that a TDA is reported fully satisfied is higher for accelerated TDAs, yet the average dollars collected per TDA is not significantly different. There was some contradictory evidence from this analysis but the overall conclusion was that there is no evidence to suggest that accelerating TDAs to the Field improves collectibility.

Colson, Jeffrey T.

"Comparison of Delinquent Accounts with Prior and No Prior Delinquent Return Activity"

January 1991
Operations Research Section
CO:E

The average dollar amount of TDAs with prior delinquent return activity is less than TDAs with no prior delinquent return activity, however, the percentage collected is 15 to 20 percent less for TDAs originating from delinquent returns.

The average dollar amount of taxpayer delinquent accounts (TDAs) with prior delinquent return activity is less than TDAs with no prior delinquent return activity. Further, the total amount collected is from 48 to 71 percent less for TDAs with prior delinquent return activity. However, in relative terms, the proportion of the TDA amount collected is from 15 to 20 percent less for TDAs with prior delinquent return activity despite their smaller average balance due. There is no clear trend in the average balance due first notice amount between notices with or without prior delinquent return activity. More dollars are collected early on first notices with no prior delinquent return activity.

Colson, Jeffrey T.

"Origin of Modules That are Reported Currently Not Collectible-Unable to Locate"

January 1990
Operations Research Section
CO:E

Modules reported not collectible because the taxpayer was unable to be located have a greater percentage of modules that originated from additional tax assessments or 6020(b) assessments.

This analysis compared modules that had been closed as Currently Not Collectible (CNC)-Unable To Locate (UTL), to a random sample of CNC modules to determine if there were any significant differences in the origin of the assessment. For business cases, the percentage of CNC-UTL modules that resulted from a TC 29X (additional tax assessment) or a 6020(b) assessment was significantly higher when compared to overall CNC modules. For individual taxpayers, TC 30X (additional tax or deficiency assessment by Examination) assessments were significantly higher for CNC-UTL modules when compared to overall CNC modules.

Collection

Colson, Jeffrey T.

"The Impact of Time to Secure a Return on Collectibility"

January 1991
Operations Research Section
CO:E

If a Form 941 becomes a TDA or a balance due first notice, the amount of time it took for the Service to secure a return has some impact on the final disposition of the module and on the dollars collected.

This study analyzed whether the length of time it takes to secure a Form 941 (Employer's Quarterly Federal Tax Return) affects the ultimate collectibility of an account. The study was based on a random sample of Form 941 taxpayer delinquent accounts (TDAs) and a separate sample of Form 941 balance due first notices — all of which posted in calendar years 1982 through 1989. Various compliance characteristics of these modules were then analyzed by type of account disposition and the length of time from the due date of the return to the assessment date. The results of the study show that the amount of time it took the Service to secure the original tax due return does have some impact on the final disposition of the module and on the dollars collected.

Friedman, Joel

"Analysis of IMF Installment Agreements Given In CY 1988 Using the Collection Research File"

April 1990
Operations Research Section
CO:E

Taxpayers who default on Form 1040 installment agreements have a greater history of noncompliance than taxpayers who do not default.

Taxpayers may, under certain circumstances, enter into installment agreements with the IRS to pay off their tax liability. This study looked at the characteristics of individual taxpayers who were granted installment agreements in 1988 and contrasted those who subsequently defaulted versus those who did not. Forty-five percent of the taxpayers who defaulted on installment agreements were self-employed compared to 34.4 percent of the taxpayers who did not default. Twenty-six percent of the defaulted installment agreements were given to taxpayers after their delinquent account had gone beyond the notice stream to TDA status. Only 9.4 percent of the taxpayers who did not default had reached TDA status when the IA was given. Taxpayers who defaulted were more likely to have a prior delinquent return, a prior TDI, and other modules in delinquent return/TDI, TDA, and deferred status than taxpayers who did not default.

Friedman, Joel

"Large Dollar Field TDAs (Over $500,000)"

February 1990
Operations Research Section
CO:E

Findings supported the view that the best way to deal with large dollar assessments that are uncollectible is to deal with them as they are being assessed.

The outcome of a random sample of Collection Field function TDAs greater than $500,000 which were issued between January 1988 and June 1989 was examined at the end of 1989. Only 1.9 percent of the dollars assessed on 100 percent penalty and 6020(B) field TDAs was collected. Examination assessment cases had ten times more dollars disposed currently not collectible than collected. Field TDAs caused by a simple balance due had the most favorable prognosis with over 20 percent of the TDA amount collected. These findings support the view that the collectibility of the case needs to be considered before making the assessment.

Friedman, Joel

"Subsequent Return Activity on IMF and BMF Delinquent Returns That Posted Status 02 From CY 1986 to CY 1988"

February 1990
Operations Research Section
CO:E

Over half of delinquent business return inquiries and nearly one third of those for individuals created from 1986 to 1988 were on taxpayers who had an acceptable reason for not filing.

This study looked at the outcome of delinquent return cases, both individual and business. Approximately 58 percent of the Business Master File (BMF) delinquent return cases and 30 percent of the Individual Master File (IMF) delinquent return cases created from 1986 to 1988 were on taxpayers who had an acceptable reason for not filing. Approximately 34 percent of the individual taxpayers had a return filed, of which 45.3 percent owed taxes. Only 3.4 percent of the Form 1120 (corporation) delinquent return investigations resulted in a balance due return being filed.

Collection

Friedman, Joel

"Verification of RWMS Scores"

September 1990
Operations Research Section
CO:E

RWMS is properly scoring work and prioritizing cases by yield, just as the system was designed.

This review was undertaken to address concern that the Resources and Workload Management System (RWMS) might not always be accurate in projecting yield potential. An analysis of the RWMS scores on both delinquent accounts and delinquent returns on Forms 1040, Forms 941, other business trust fund and business non-trust fund returns showed that, across all return types, RWMS on average was very effective in prioritizing cases by yield, just as the system was designed. As with any statistical estimating system, particular cases will inevitably fall above and below the average—and RWMS scores are no exceptions.

Office of the Assistant Commissioner (Examination)

Devlin, John

"Internal Revenue Service Business Information Returns Study"

June 1991
Information Reporting Program
EX:I

Corporate compliance in reporting income potentially subject to information reporting is high.

The IRS conducted an in-depth study of the feasibility of instituting an information returns program for corporations. The study found that corporate compliance in reporting five types of income (interest, dividends, rents, royalties, and capital gains) was high. Small corporations (those with assets under $10 million) reported 94.3 percent of this income, while larger corporations reported over 99 percent. Furthermore, in those cases in which information returns had been voluntarily filed, compliance in reporting this income was very high—98.2 percent for small corporations and over 99 percent for larger corporations.

Estimates were also developed of the portion of the gross income tax gap that arises from nonreporting of interest, dividend, rent, royalty and capital gains income which would be covered by the extension of mandatory reporting rules to include payments to corporations. These estimates are between $407 million and $533 million. It is not known what proportion of this estimated piece of the tax gap actually could be recovered by a mandatory information reporting program.

There are many difficulties that would have to be overcome before a workable information returns program for corporations could be implemented (e.g., most corporations report income on a fiscal year period, while information returns are based on a calendar year). Furthermore, a mandatory information returns program could place significant burdens on both payers and corporate income tax filers. For these reasons, and based on the high compliance rates in reporting this income, the study recommends against instituting an information returns program for corporations at this time. However, the Director of Information Reporting will be exploring other possible business information return reporting initiatives with external stakeholders.

Office of the Assistant Commissioner (Planning and Research)

Arlinghaus, Barry P.

"Compliance Levels for S Corporation and Partnership Returns"

October 1991
Compliance Measurement Group
PR:R

S corporations and partnerships overreport deductions by more than they underreport gross profits and their compliance is similar to that for C corporations.

This study reports compliance levels for partnership (Form 1065) and S corporation (Form 1120S) returns for tax years 1981 and 1984, respectively. These estimates are based on data from the Taxpayer Compliance Measurement Program (TCMP) surveys. The study shows that compliance patterns for partnerships and S corporations are quite similar to one another and to those for C corporations in 1980 and 1987. The surveys indicate that partnerships and S corporations reported 98.7 percent and 98.5 percent, respectively, of their gross profits. Nevertheless, this amounts to underreporting of $1.2 billion in gross profits by partnerships and $1.7 billion by S corporations. Partnerships report only 79.6 percent of income other than gross profits. This represents underreporting of $2 billion — which exceeds (in dollar terms) the underreporting of gross profits. Both types of entities overreport deductions by approximately 3 percent. Partnerships overreport deductions by $2.8 billion and S corporations by $2.1 billion. In terms of both reporting levels and dollar amounts, interest expense, depreciation and other deductions were the most significant types of misreported deductions.

Research

Fratanduono, Rick

"Tip Income Study — A Study of Tipping Practices in the Food Service Industry for 1984"

August 1990
Compliance Measurement Group
PR:R

Tip reporting requirements for the food service industry have improved compliance significantly.

The tip reporting requirements for the food service industry, which were enacted in the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), have improved compliance significantly. The results of this study show that where tip reporting requirements are applicable, taxes are paid (in the aggregate) on about one-half of tip income. However, where reporting requirements do not apply (i.e., for smaller establishments), only one-third of tip income is reported.

In general, tip compliance is still very poor compared to other types of income. The study results suggest that the following changes would further increase compliance, increase tax receipts, and raise the future social security benefits of tipped food service workers: (1) raise the allocation threshold to 10 percent of gross receipts, (2) require employers to allocate to their employees all tips received on credit card charges if these charged tips are (in aggregate) above the allocation threshold, and (3) extend tip reporting requirements to small establishments.

Hiniker, John

"Payer Master File Delinquency Check Using DIF"

March 1990
Statistical Methods Group
PR:R

A DIF system can be used to identify nonfilers of Forms 1099.

The Payer Master File (PMF) was established to enhance and control payer compliance related to the filing of information returns (Forms 1099). All payers of Form 1099 type income should be on the PMF. When payers of Form 1099 type income are not on the file, there is a high likelihood of the payee not being provided the required Form 1099. Previous studies have established that payees, or recipients, tend to underreport the income when they are not provided the Form 1099.

Two separate discriminant function (DIF) formulas were developed using TCMP data on tax year 1985 individual tax returns: one for high gross receipts Schedule C filers; and one for high gross receipts Schedule F filers. The formulas attempted to predict a high likelihood of liability for filing Forms 1099.

Operational effectiveness of the formulas was predicted by using the same TCMP data file. After scoring all high gross receipts Schedule C and F returns, screening against the PMF was simulated. The result of the testing indicated that high scored cases had a high likelihood of being required to file Forms 1099, and, if not currently on the PMF, would very likely be delinquent for those forms. Collection will test these formulas in 1991.

Research

Jones, Gerald

"Automated Taxpayer Service System Confirmation Study"

September 1990
Modeling and Special Studies Group
PR:R

Automation improves quality of responses and productivity of Taxpayer Service assistors.

As part of Taxpayer Service's effort to provide more accurate, timely and responsive service to the public, the Automated Taxpayer Service System (ATSS) was developed. The ATSS Confirmation Study was conducted to evaluate the affects of ATSS on productivity, quality and employee morale at the test site in Dallas. The test of the Technical Inquiry System portion of ATSS during the 1990 filing season showed the system to be of significant benefit to Taxpayer Service assistors, in terms of improving both quality and productivity, at a minimal cost to the IRS. The quality of the ATSS assistors' responses, as measured by monitoring actual taxpayer calls, was higher by almost four percent than that of the assistors in the control group. On front-line calls, Taxpayer Service Representatives using ATSS answered ten percent more calls per hour than assistors using the paper system. The magnitude of these benefits should increase over time as assistors become more familiar with the system.

McArthur, Timmie

"Effects of Nontax Refund Offsets on Taxpayer Compliance: Tax Year 1986 Refund Offsets—Addendum"

January 1991
Modeling and Special Studies Group
PR:R

Refund offset program adversely affects taxpayer compliance for at least three years after offset.

Refund offset is a Congressionally-mandated debt collection method. Specifically, refund offset is the process of using the federal income tax refund due a taxpayer to satisfy a nontax debt, such as overdue student loans or debts owed to families receiving child/spousal support payments. This study was designed to monitor the filing and payment patterns of taxpayers who were referred and offset for the first time in tax year 1986.

The main purpose of this analysis was to determine whether the refund offset program causes an increase in noncompliance. Thus, the offset taxpayers were compared to a general refund control group. The filing and payment patterns of the offset and control groups were similar during the two years preceding offset. In the subsequent year, however, there was an increase in the nonfiler and balance due rates for the offset group. Furthermore, the offset group continued to show increased levels in nonfiling and nonpayment of taxes for the second and third years following the initial offset. The data imply that the refund offset program has a detrimental impact on voluntary taxpayer compliance for at least three years after offset.

Research

Middleton, Malqueen

"1989 Customer Satisfaction Surveys for Service Center Adjustment and Underreporter Operations"

July 1990 and March 1991
Statistical Methods Group
PR:R

Taxpayers are generally satisfied with the quality of service provided by the Service Center Adjustment and Underreporter Branches. But the longer it takes to resolve a case the more dissatisfied the customer.

The Internal Revenue Service contacts taxpayers for a variety of reasons through the Service Center Adjustment and Underreporter Branches. Separate customer surveys were conducted on both operations. The objectives of these surveys were: (1) to develop baseline estimates of how taxpayers perceive the quality of service provided by the Adjustment and Underreporter Branches, and (2) to determine areas where they need to concentrate their efforts to improve the quality of service provided to taxpayers.

In general, taxpayers were pleased with the quality of service provided by the Adjustment Branch. Almost 60 percent of the responding taxpayers were somewhat or very pleased with the overall quality of service. However, the subset of responding taxpayers who received a notice from IRS tended to be more dissatisfied with the service provided by the Adjustment Branch. If the taxpayer's case was resolved in IRS' favor or if the taxpayer felt that their case was still not resolved, they tended to be more dissatisfied with the service provided. Also, the longer it took to resolve the taxpayers' cases, the more dissatisfied they tended to be with the service provided by the Adjustment Branch.

Taxpayers were also generally pleased with the quality of service provided by the Underreporter Branch. Of the responding taxpayers, 67 percent were pleased with the overall quality of service. Taxpayers receiving more than one notice are more likely to be dissatisfied with the Underreporter Branch. The longer it took the Underreporter Branch to resolve a case, the more dissatisfied the taxpayer became. Similar to the experience with the Adjustment Branch, if the taxpayer's case was resolved in IRS' favor or if the taxpayer felt that their case was still not resolved, they tended to be more dissatisfied with the service. Taxpayers filing Form 1040EZ are more dissatisfied than taxpayers filing Form 1040A or Form 1040. Taxpayers with a family income of less than $10,000 are more displeased with the service than any other income group.

Middleton, Malqueen

"Service Center Overtime Study"

September 1990
Statistical Methods Group
PR:R

It is not clear if IRS should hire part-timers or use overtime to handle peak processing. A recommendation was made to Returns Processing to conduct a cost/benefit analysis to determine if it is cost beneficial to use paid overtime or hire part-timers.

This study was conducted to analyze the relationships between overtime and quality. The objective was to determine if it is better to hire part-time employees or use overtime to handle returns processing during peak periods. The key findings were: (1) work schedule does affect production and error rates; (2) part-timers are not as productive but are a little less error prone than full-time seasonal employees; (3) as total hours worked go up, production rates go up with minimal increases in error rates; however, sick leave may go up; (4) production and error rates may suffer if Form 1040 hours are more than one-third of total hours worked. Also, the results indicate that error rates are as much affected by service center and month as anything else.

It was not clear from these findings whether it was better to hire part time employees or use overtime. Thus, a recommendation was made to quantify the cost and benefits of the various trade-offs identified in the study. This should yield a more definitive answer.

Research

Rogers, Hilary

"Form 1040 Shift Study, Tax Year 1989"

October 1989
Modeling and Special Studies Group
PR:R

Taxpayer survey responses reveal specific trends for identifying why taxpayers do not file simpler returns.

The Tax Reform Act of 1986 provided a major opportunity for taxpayers to shift to filing simpler returns. Maximizing the shift to Forms 1040A and 1040EZ was expected to have cost - savings potential for the Service, as well as benefits to taxpayers in terms of burden reduction and, in some cases, speedier refund processing. Finding a strategy to maximize this shift became a top priority research item.

In Phase 1 of the study, a sample of taxpayers who received the 1040A/1040EZ tax package was sent a flier encouraging them to use the simplest tax form possible during the 1989 filing season. A control group of similar taxpayers did not receive the flier. The Phase 1 data analysis showed that for taxpayers eligible to file Form 1040A or 1040EZ, the type of return they actually filed was independent of whether or not they received a flier.

In Phase 2, a survey questionnaire was sent to all test and control group taxpayers identified in Phase 1 who did not file the simplest form they were eligible to file in 1989. The purpose of the questionnaire was to determine why these taxpayers did not file simpler returns. Analysis of the survey responses showed that 58.0 percent of the respondents did not prepare their own tax return. Of these, 81.4 percent had used a paid tax preparer (PTP). Isolating the number of respondents who had used a PTP and who also responded to the questions about why they filed a more complex return than necessary, more than 32 percent responded that their preparer recommended the use of the tax form they filed; approximately 30 percent of this group indicated that their preparer did not give them a choice of forms.

Wilhelm, James

"Development of Return Selection Formulas for Form 990T"

May 1990
Statistical Methods Group
PR:R

Formula developed to help Exempt Organizations prioritize their Forms 990T for examination.

The purpose of this study was to develop a discriminant function (DIF) formula that would facilitate Exempt Organizations' (EO's) prioritization of the Forms 990T for examination. If the forms could be prioritized, EO could initially examine the Forms 990T with a large anticipated tax change.

A DIF formula was developed that will permit EO to rank their Forms 990T by potential tax change. The formula is effective in identifying high tax change cases. However, the formula will only be applied to a small population of Form 990T filers.

Weikel, Joseph

"IRS 1990 Research Conference Report: How Do We Affect Taxpayer Behavior? The Case for Positive Incentives, Assistance or Enforcement"

March 1991
Compliance Measurement Group
PR:R

IRS Research Conference analyzes impact of enforcement and alternatives to enforcement .

The topic of the 1990 IRS research conference was how positive incentives, taxpayer assistance and enforcement can be used to affect taxpayer behavior. Studies presented by academic researchers, tax practitioners, and IRS employees covered a wide range of subjects within this general area. These topics included the impact of tax amnesty on future compliance, the potential effect of moral appeal in influencing taxpayer honesty, and the impact of taxpayer assistance on compliance. The conference report includes presentations of all 21 studies, as well as excerpts of the discussions that followed each topic.

Section IV *Statistical Tables*

Table E1. Employment, Income and Population--Actual: 1982, 1989 and Projected: 1990, 1997--United States and IRS Regions

	United States		North Atlantic		Mid-Atlantic		Southeast		Central		Midwest		Southwest		Western	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (000)																
Actual																
1982	99,526		14,078		13,670		17,270		12,299		13,829		13,276		15,104	
1989	117,326	2 55	16,106	2 06	16,117	2 56	21,536	3 53	14,348	2 38	15,761	2 00	14,529	1 35	18,925	3 81
Projected																
1990	118,529	1 03	16,186	0 51	16,319	1 25	21,846	1 43	14,396	0 35	15,814	0 34	14,706	1 22	19,255	1 74
1997	128,975	1 26	17,155	0 85	17,537	1 07	24,130	1 48	15,189	0 78	16,837	0 92	16,425	1 67	21,701	1 81
Personal Income (millions of current $)																
Actual																
1982	2,670,750		360,607		375,402		422,479		326,296		387,790		347,726		446,450	
1989	4,427,325	8 40	659,201	10 46	644,606	10 24	735,922	10 60	516,387	8 19	570,184	7 86	520,770	7 11	760,275	10 57
Projected																
1990	4,733,853	6 92	702,494	6 57	686,416	6 49	790,985	7 48	548,609	6 28	604,897	6 05	557,648	7 14	842,304	7 95
1997	7,396,230	8 04	1,065,777	7 39	1,048,200	7 55	1,263,570	8 54	824,717	7 18	918,038	7 43	900,747	8 78	1,373,172	9 00
Personal Income (millions of constant 1982 $)																
Actual																
1982	2,670,680		360,597		375,393		422,469		326,284		387,781		347,716		446,440	
1989	3,405,373	3 93	507,035	4 75	495,813	4 58	566,049	4 66	397,191	3 00	438,589	2 75	400,560	2 17	600,166	4 83
Projected																
1990	3,476,363	2 06	515,906	1 75	504,103	1 67	580,892	2 62	403,044	1 48	444,084	1 26	409,751	2 29	618,581	3 07
1997	3,943,882	1 92	568,300	1 45	559,465	1 57	673,777	2 28	439,787	1 30	490,058	1 48	480,302	2 48	732,213	2 62
Per Capita Personal Income (current $)																
Actual																
1982	11,488		12,837		12,344		9,727		10,552		11,467		11,371		12,739	
1989	17,540	7 57	20,932	9 38	19,914	8 76	15,179	8 01	16,210	7 69	17,175	7 11	15,376	5 03	18,966	6 98
Projected																
1990	18,627	6 20	22,260	6 44	21,105	5 98	16,136	6 30	17,234	6 32	18,188	5 90	16,334	6 23	20,147	6 23
1997	26,266	7 39	33,971	7 50	31,697	7 17	24,546	7 45	28,074	7 33	27,643	7 43	24,997	7 58	30,658	7 45
Per Capita Personal Income (constant 1982 $)																
Actual																
1982	11,486		12,837		12,344		9,727		10,552		11,467		11,371		12,738	
1989	13,492	2 52	16,101	3 02	15,316	3 44	11,676	2 66	12,468	2 60	13,212	2 17	11,629	0 57	14,588	2 07
Projected																
1990	13,680	1 38	16,363	1 63	15,500	1 19	11,850	1 49	12,657	1 51	13,357	1 10	11,996	1 42	14,796	1 42
1997	15,074	1 46	18,115	1 53	16,903	1 29	13,090	1 48	13,904	1 41	14,741	1 48	13,330	1 58	16,348	1 50
Population (000)																
Actual																
1982	232,848		30,082		30,375		43,378		31,075		32,034		30,542		35,160	
1989	248,914	1 00	31,058	0 48	31,921	0 73	47,812	1 48	31,417	0 18	32,738	0 31	33,400	1 34	40,570	2 20
Projected																
1990	251,353	0 98	31,185	0 42	32,166	0 77	48,464	1 41	31,492	0 24	32,884	0 45	33,788	1 16	41,352	1 93
1997	264,538	0 75	31,720	0 25	33,485	0 58	52,042	1 05	31,980	0 22	33,614	0 32	36,432	1 12	45,263	1 38
Population Age 65 and Over (000)																
Actual																
1982	26,825		3,787		3,590		5,373		3,486		3,941		3,037		3,822	
1989	30,982	2 20	4,138	1 32	4,158	2 22	6,427	2 90	3,892	1 76	4,318	1 37	3,548	2 41	4,460	3 38
Projected																
1990	31,529	1 83	4,191	1 20	4,224	1 59	6,570	2 37	3,938	1 18	4,373	1 27	3,617	1 92	4,607	2 83
1997	34,296	1 25	4,384	0 66	4,550	1 10	7,360	1 70	4,151	0 77	4,609	0 77	4,022	1 60	5,220	1 90

Table E2. Employment, Income and Population--Actual: 1982, 1989 and Projected: 1990, 1997--IRS North Atlantic Region and Districts

	North Atlantic		Albany		Augusta		Boston		Brooklyn		Buffalo		Burlington		Hartford		Manhattan		Portsmouth		Providence	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (000)																						
Actual																						
1982	14,076		783		459		2,820		2,126		1,869		223		1,581		3,250		436		431	
1989	16,106	2 06	875	1 68	589	4 05	3,379	2 25	2,373	1 86	2,066	1 66	263	3 84	1,822	2.18	3,626	1.56	571	4 42	500	2 29
Projected																						
1990	16,188	0 51	880	0 57	576	-1 67	3,390	0 33	2,388	0 63	2,099	0 62	277	-2 12	1,851	1 59	3,650	0 61	581	1.75	494	-1 20
1997	17,155	0 85	931	0 83	629	1 26	3,574	0 76	2,529	0 83	2,220	0 82	300	1 19	1,968	0 90	3,862	0 83	626	1.11	519	0 72
Personal Income (millions of current $)																						
Actual																						
1982	380,607		25,576		10,932		73,467		85,967		53,276		5,280		45,361		59,054		11,020		10,672	
1989	659,201	10 46	45,249	10 99	20,239	12 18	133,244	11 62	143,448	9 55	87,180	9 09	9,441	11 29	80,894	11.19	98,437	9 53	22,764	15 22	16,305	10 22
Projected																						
1990	702,494	6.57	48,557	7 31	21,544	6 45	140,664	5 57	153,137	6 75	92,900	6 56	9,956	5 45	86,717	7.20	105,076	6 74	24,474	7.51	19,469	6 36
1997	1,065,777	7 39	77,399	6 49	34,190	6 39	211,790	7 22	229,446	7.12	142,570	7 64	15,382	7.79	129,540	7.05	158,756	7.30	37,313	7.49	29,391	7.26
Personal Income (millions of constant 1982 $)																						
Actual																						
1982	380,597		25,575		10,932		73,465		85,964		53,277		5,280		45,360		59,052		11,020		10,672	
1989	507,035	4 75	34,804	5 16	15,566	6 06	102,467	5 64	110,336	4 05	67,056	3 69	7,261	5 36	62,222	5 31	75,715	4 03	17,509	6.41	14,079	4 56
Projected																						
1990	515,906	1 75	35,660	2 48	15,622	1 64	103,303	0 80	112,464	1 93	68,225	1 74	7,312	0 70	63,685	2 35	77,187	1 92	17,972	2.64	14,298	1 56
1997	568,300	1 45	41,271	2 25	16,231	2 16	112,933	1.33	122,347	1.20	76,022	1 63	8,202	1 74	69,074	1.21	84,653	1 39	19,695	1 53	15,672	1.37
Per Capita Personal Income (current $)																						
Actual																						
1982	12,637		11,629		9,580		12,740		12,720		11,649		10,090		14,450		14,370		11,580		11,169	
1989	20,932	9 36	19,500	9 67	16,289	10 00	22,160	10.58	20,529	6.77	16,849	6 83	16,369	6.88	24,589	10 00	22,880	6 40	20,240	10 66	16,069	6 63
Projected																						
1990	22,280	6 44	20,869	7 02	17,170	5 41	23,369	5 36	21,930	6 62	20,180	6 96	17,130	4 65	26,259	6 88	24,390	6 60	21,569	6 57	19,200	6 26
1997	33,971	7 50	32,760	6.14	26,359	7 65	35,530	7 43	33,349	7 44	31,190	7 62	26,039	7 43	39,260	7 06	37,400	7 62	32,210	7.05	29,079	7 35
Per Capita Personal Income (constant 1982 $)																						
Actual																						
1982	12,637		11,629		9,580		12,740		12,720		11,649		10,090		14,450		14,370		11,580		11,169	
1989	16,101	3 92	15,000	4 14	12,529	4 40	17,059	4 84	15,789	3 45	14,500	3 50	12,590	3 54	18,900	4 40	17,599	3 21	15,570	4 02	13,899	3 49
Projected																						
1990	16,363	1 63	15,330	2 20	12,810	0 65	17,170	0 65	16,109	2 03	14,809	2 13	12,580	-0 08	19,289	2 06	17,910	1 77	15,840	1 73	14,100	1 45
1997	18,115	1 53	17,470	1 99	14,059	1 64	18,950	1 46	17,779	1 46	16,630	1 76	13,888	1 49	20,950	1 23	19,950	1 63	17,180	1 21	15,509	1 43
Population (000)																						
Actual																						
1982	30,082		2,197		1,140		5,759		6,752		4,566		523		3,136		4,105		950		954	
1989	31,056	0 46	2,289	0 60	1,225	1 07	5,825	0 41	6,890	0 29	4,560	-0 02	589	1 26	3,247	0 51	4,243	0 46	1,109	2 39	999	0 67
Projected																						
1990	31,185	0 42	2,301	0 52	1,241	1 31	5,853	0 47	6,906	0 23	4,557	-0 07	575	1 05	3,266	0 58	4,261	0 42	1,122	1 17	1,003	0 40
1997	31,720	0 25	2,388	0 55	1,312	0 82	6,027	0 16	6,856	0 10	4,621	0 20	587	0 55	3,334	0 30	4,291	0 10	1,171	0 82	1,022	0 27
Population Age 65 and Over (000)																						
Actual																						
1982	3,787		272		146		751		842		552		61		387		535		109		132	
1989	4,136	1 32	284	0 63	166	1 98	821	1.33	935	1 58	574	0 57	68	1 04	442	2 03	570	0 93	128	2 48	150	1 95
Projected																						
1990	4,191	1.28	286	0 70	170	2 41	832	1.34	946	1 39	578	0 70	70	2 94	448	1.36	576	1.05	131	2.34	152	1.33
1997	4,364	0 66	293	0 35	184	1 16	868	0.62	1,001	0.80	585	0 17	74	0 82	475	0 88	604	0 89	139	0 87	161	0 95

Table E3. Employment, Income and Population--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Mid-Atlantic Region and Districts

	Mid-Atlantic		Baltimore		Newark		Philadelphia		Pittsburgh		Richmond		Wilmington	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (000)														
Actual														
1982	13,670		2,516		3,422		3,404		1,665		2,376		287	
1989	16,117	2 58	3,070	3 15	4,024	2.51	3,725	1 35	1,822	1 35	3,104	4.38	372	4 23
Projected														
1990	16,319	1 25	3,118	1 56	4,038	0 35	3,737	0 32	1,830	0 44	3,219	3 70	377	1 34
1997	17,537	1 07	3,369	1.15	4,344	1.08	3,923	0 71	1,918	0.69	3,565	1 54	418	1 55
Personal Income (millions of current $)														
Actual														
1982	375,402		63,796		104,058		85,793		50,525		64,012		7,218	
1989	644,606	10 24	114,539	11 36	186,632	11 34	138,749	8 82	74,195	6 69	117,432	11 92	13,059	11.56
Projected														
1990	686,418	6 49	122,963	7 37	197,876	6 02	146,969	5 92	77,857	4 94	126,776	7 96	13,957	6 88
1997	1,049,200	7 55	190,729	7 87	297,664	7 22	221,773	7.27	114,749	6 77	201,831	8.48	22,254	6 49
Personal Income (millions of constant 1982 $)														
Actual														
1982	375,393		63,794		104,055		85,791		50,524		64,011		7,216	
1989	495,813	4 58	88,100	5 44	143,553	5 42	106,722	3 49	57,068	1 85	90,328	5 87	10,044	5 59
Projected														
1990	504,103	1 67	90,318	2 52	145,320	1 23	107,934	1 14	57,177	0 19	93,104	3 08	10,250	2 05
1997	559,465	1 57	101,703	1 80	158,830	1 33	118,256	1.37	61,188	1.00	107,622	2 23	11,666	2 25
Per Capita Personal Income (current $)														
Actual														
1982	12,344		12,980		13,960		11,639		11,110		11,610		11,940	
1989	19,914	8 76	21,269	9 12	23,740	10 01	17,910	7 70	16,529	6 97	18,920	8 99	19,059	8 52
Projected														
1990	21,105	5 98	22,700	6 73	25,130	5 86	18,910	5 58	17,440	5 51	20,130	6 40	20,119	5 56
1997	31,697	7 17	34,000	7 11	37,389	6 97	28,420	7 18	26,430	7 36	30,339	7 25	30,509	7.38
Per Capita Personal Income (constant 1982 $)														
Actual														
1982	12,344		12,980		13,960		11,639		11,110		11,610		11,940	
1989	15,318	3 44	16,389	3 73	18,269	4 41	13,779	2 63	12,720	2 07	14,549	3 62	14,859	3 25
Projected														
1990	15,500	1 19	16,670	1 84	18,450	0 99	13,889	0 80	12,809	0 70	14,779	1 58	14,769	0 75
1997	16,903	1 29	18,130	1 25	19,940	1 15	15,159	1 31	14,090	1 43	16,180	1 35	16,269	1 45
Population (000)														
Actual														
1982	30,375		4,911		7,448		7,362		4,542		5,506		604	
1989	31,921	0 73	5,309	1 18	7,751	0 58	7,638	0 54	4,425	-0 37	6,122	1 59	676	1 70
Projected														
1990	32,166	0 77	5,360	0 96	7,789	0 49	7,689	0 67	4,415	-0 23	6,229	1 75	686	1 48
1997	33,465	0 58	5,671	0 83	8,053	0 48	7,889	0 37	4,390	-0 08	6,725	1 14	737	1 06
Population Age 65 and Over (000)														
Actual														
1982	3,599		498		902		986		814		538		63	
1989	4,158	2 22	589	2 68	1,021	1 88	1,135	2 18	878	1 49	655	3 11	80	3 85
Projected														
1990	4,224	1 58	600	1 87	1,035	1 37	1,150	1 32	884	0 89	673	2 75	82	2 50
1997	4,550	1 10	661	1 45	1,105	0 97	1,229	0 98	709	0 52	753	1.70	93	1 92

Table E4. Employment, Income and Population--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Southeast Region and Districts

	Southeast		Atlanta		Birmingham		Columbia		Fort Lauderdale		Greensboro		Jackson		Jacksonville		Little Rock		Nashville		New Orleans	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (000)																						
Actual																						
1982	17,270		2,438		1,452		1,286		---		2,598		875		---		797		1,685		1,779	
1989	21,539	3 53	3,194	4 45	1,722	2 66	1,629	3 81	2,560	---	3,327	4 01	999	2 02	3,182	---	966	3 03	2,335	3 41	1,645	-1 08
Projected																						
1990	21,848	1 43	3,222	0 88	1,733	0 64	1,679	3 07	2,659	3 87	3,347	0 60	1,004	0 50	3,285	3 89	980	1 45	2,281	-2 31	1,658	0.79
1997	24,130	1.49	3,553	1 47	1,835	0 84	1,813	1 14	3,091	2 32	3,652	1 30	1,054	0 71	3,818	2 32	1,070	1.31	2,455	1 09	1,789	1.13
Personal Income (millions of current $)																						
Actual																						
1982	422,479		55,940		34,947		28,124		---		58,020		20,606		---		19,910		43,068		44,985	
1989	735,922	10 60	105,771	12 73	57,190	9 09	48,544	10 37	104,242	---	101,533	11.01	31,494	7 55	123,377	---	31,711	8 47	74,048	10 26	58,012	4 14
Projected																						
1990	790,985	7 48	113,457	7.27	60,969	8 64	51,549	9 19	112,897	8.30	109,033	7 39	33,833	7 43	133,999	8 01	33,941	7.03	79,132	6 87	62,155	7 14
1997	1,263,579	8 54	178,210	8 15	93,835	7 69	81,497	8 30	187,930	9 49	174,079	8 52	50,113	8 87	224,594	9 66	53,290	8.14	123,099	7 94	96,932	7.99
Personal Income (millions of constant 1982 $)																						
Actual																						
1982	422,489		55,939		34,948		28,123		---		58,019		20,606		---		19,909		43,067		44,984	
1989	566,048	4 66	81,357	6 49	43,989	3 70	37,338	4 68	80,190	---	78,096	5 63	24,225	2 51	94,898	---	24,390	3.22	56,955	4 60	44,621	-0.12
Projected																						
1990	580,892	2 62	83,322	2 42	44,790	1 82	37,857	1 39	82,911	3 41	80,073	2 53	24,846	2 56	98,409	3 70	24,925	2.19	58,114	2 03	45,645	2 29
1997	673,777	2 26	95,027	2 01	50,038	1 97	43,456	2 11	100,210	2 96	92,824	2 27	26,722	1 06	119,760	3 10	26,415	2 00	95,640	1.85	51,867	1.89
Per Capita Personal Income (current $)																						
Actual																						
1982	9,727		9,850		9,630		8,700		---		9,269		8,000		---		8,590		9,200		10,220	
1989	15,179	8 01	16,160	9 15	13,689	7 83	13,580	8 01	19,240	---	15,190	9 13	11,820	6 82	16,470	---	12,960	7.27	14,759	8 83	13,019	3 91
Projected																						
1990	16,136	6 30	17,119	5 93	14,559	6 51	14,250	4 93	20,410	6 06	16,140	6 25	12,690	7 36	17,470	6 07	13,769	6.24	15,710	6.44	13,940	7 07
1997	24,548	7 45	25,759	7 21	22,269	7 58	21,990	7 46	30,740	7 23	24,920	7 77	18,720	6 79	26,220	7 16	20,660	7 15	24,019	7 56	21,339	7 58
Per Capita Personal Income (constant 1982 $)																						
Actual																						
1982	9,727		9,850		8,630		8,700		---		9,269		8,000		---		8,590		9,200		10,220	
1989	11,676	2 66	12,429	3.74	10,509	2 72	10,450	2 67	14,799	---	11,979	3.71	9,090	1 85	12,669	---	9,870	2 30	11,350	3 34	10,019	-0 26
Projected																						
1990	11,850	1 49	12,570	1 13	10,690	1 72	10,470	0 19	14,990	1 29	11,850	1.48	9,320	2 53	12,830	1.27	10,110	1.40	11,539	1.87	10,240	2.21
1997	13,090	1 49	13,740	1 33	11,689	1 60	11,570	1 50	18,390	1.33	13,289	1 73	9,980	1 01	13,980	1 28	11,019	1.28	12,809	1.57	11,379	1 59
Population (000)																						
Actual																						
1982	43,378		5,673		3,953		3,229		---		6,034		2,573		---		2,315		4,677		4,396	
1989	47,812	1.48	6,457	1 97	4,128	0 63	3,525	1 31	5,343	---	6,583	1.32	2,627	0.30	7,388	---	2,413	0 60	4,848	0 83	4,393	-0.01
Projected																						
1990	48,484	1 41	6,555	1 52	4,143	0 41	3,577	1.48	5,472	2.41	6,682	1 35	2,638	0 42	7,588	2 71	2,438	1 04	4,983	0 69	4,410	0.39
1997	52,042	1 05	6,994	0 96	4,256	0 39	3,798	0 88	6,182	1.85	7,062	0 81	2,706	0.37	8,681	2 02	2,606	1 00	5,182	0 57	4,593	0 59
Population Age 65 and Over (000)																						
Actual																						
1982	5,373		549		460		310		---		648		289		---		323		542		420	
1989	6,427	2 66	656	2 78	519	1 83	385	3 48	1,122	---	769	3.11	324	1.18	1,171	---	357	1 50	623	2 13	481	2 07
Projected																						
1990	6,579	2 37	672	2.44	526	1 35	395	2 60	1,158	3.21	808	2 41	327	0 93	1,210	3.33	362	1 40	633	1.91	488	1.46
1997	7,360	1 70	742	1.49	561	0 95	440	1.63	1,356	2.44	892	1.49	347	0 87	1,414	2.41	398	1.42	680	1.06	530	1.23

Table E5. Employment, Income and Population--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Central Region and Districts

	Central		Cincinnati		Cleveland		Detroit		Indianapolis		Louisville		Parkersburg	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (000)														
Actual														
1982	12,299		1,982		2,581		3,535		2,245		1,263		673	
1989	14,346	2 38	2,266	2 06	2,953	2 06	4,235	2 63	2,674	2 73	1,555	3 03	663	-0 21
Projected														
1990	14,396	0 35	2,291	1 01	2,982	0 98	4,210	-0 59	2,689	0 93	1,537	-1.16	679	2 41
1997	15,189	0 78	2,424	0 83	3,157	0 84	4,387	0 60	2,887	0 99	1,648	1 03	706	0 57
Personal Income														
(millions of current $)														
Actual														
1982	328,296		40,644		68,446		101,508		58,602		34,376		17,720	
1989	516,387	6 16	70,986	6 73	102,727	7 15	167,056	9 22	90,676	6 65	52,125	7 38	23,617	4 75
Projected														
1990	546,809	6 28	86,103	7 67	109,856	6 94	175,339	4 96	97,808	7 41	55,130	5 76	24,773	4 89
1997	824,717	7 16	133,683	7 93	162,820	6 89	259,622	6 87	146,889	7.21	84,426	7.59	37,075	7 09
Personal Income														
(millions of constant 1982 $)														
Actual														
1982	326,264		40,643		68,444		101,502		58,601		34,375		17,719	
1989	387,181	3 00	51,506	3 41	79,015	2 21	126,500	3 60	69,900	3 36	40,093	2 38	18,165	0 36
Projected														
1990	403,044	1 46	53,233	2 60	80,676	2 10	126,771	0 21	71,683	2 55	40,486	0 98	18,193	0.15
1997	439,767	1 30	71,390	1 84	86,820	1.09	138,443	1 07	76,326	1.32	45,019	1.60	19,769	1 24
Per Capita Personal Income														
(current $)														
Actual														
1982	10,552		10,789		11,039		11,110		10,289		9,269		9,009	
1989	16,210	7 66	18,508	7 57	18,480	7 04	17,740	6 53	15,980	7.90	13,759	8.92	12,509	5 55
Projected														
1990	17,234	6 32	17,720	7 34	17,680	7.28	16,660	5 19	17,109	7.07	14,549	5 74	13,169	5 28
1997	26,074	7 33	27,160	7 61	26,720	7 30	26,200	7 30	25,630	7 11	22,240	7 55	19,799	7 19
Per Capita Personal Income														
(constant 1982 $)														
Actual														
1982	10,552		10,789		11,039		11,110		10,289		9,269		9,009	
1989	12,488	2 60	12,700	2 53	12,678	2 12	13,648	3 26	12,298	2 78	10,590	2 04	9,829	0 99
Projected														
1990	12,657	1 51	13,019	2 51	12,990	2 45	13,710	0 45	12,559	2 11	10,679	0 84	9,669	0 42
1997	13,904	1 41	14,480	1 60	14,250	1 38	15,039	1 38	13,686	1 26	11,860	1 58	10,559	1.31
Population (000)														
Actual														
1982	31,075		4,595		6,163		9,127		5,492		3,703		1,965	
1989	31,417	0 16	4,777	0 57	6,147	-0 11	9,290	0 26	5,607	0 30	3,735	0 12	1,861	-0 76
Projected														
1990	31,492	0 24	4,806	0 61	6,145	-0 03	9,289	-0 01	5,643	0 64	3,749	0 37	1,860	-0 05
1997	31,980	0 22	4,985	0 53	6,162	0 04	9,307	0 03	5,784	0 38	3,838	0 34	1,894	0 26
Population Age 65 and Over (000)														
Actual														
1982	3,456		493		731		958		611		425		247	
1989	3,892	1 76	562	2 00	825	1 64	1,088	1 82	690	1 85	464	1 31	283	0 83
Projected														
1990	3,936	1 16	570	1 42	834	1 09	1,099	1 01	700	1 45	470	1 29	285	0 76
1997	4,151	0 77	616	1 15	868	0 58	1,147	0 62	746	0 94	495	0 76	279	0 75

Table E6. Employment, Income and Population--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Midwest Region and Districts

	Midwest		Aberdeen		Chicago		Des Moines		Fargo		Helena		Milwaukee		Omaha		St. Louis		St. Paul		Springfield	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (000)																						
Actual																						
1982	13,829		254		4,088		1,152		276		302		2,088		874		2,127		1,889		1,001	
1989	15,701	2 00	297	2 42	4,509	1 47	1,302	1 86	282	0 31	314	0 57	2,414	2 41	785	1 93	2,502	2 52	2,268	2 87	1,108	1 53
Projected																						
1990	15,814	0 34	293	-1 35	4,515	0 13	1,316	1 08	287	1 77	309	-1 59	2,418	0 06	788	3 01	2,480	-0 88	2,302	1 50	1,108	0 00
1997	16,837	0 92	309	0 78	4,789	0 87	1,405	0 87	305	0 90	334	1 16	2,574	0 93	835	0 85	2,616	0 78	2,495	1 20	1,175	0 86
Personal Income (millions of current $)																						
Actual																						
1982	367,790		6,608		106,099		31,656		7,088		8,140		52,706		17,624		53,971		47,685		34,133	
1989	570,184	7 96	9,612	6 49	171,278	8 35	44,754	5 91	8,887	3 63	11,329	5 60	82,802	8 18	25,124	6 06	86,062	8 54	78,428	9 12	51,908	7 44
Projected																						
1990	604,697	6 05	10,454	8 76	179,943	5 06	46,687	8 79	9,817	10 46	12,092	6 73	87,373	5 52	27,055	7 69	91,202	5 97	83,760	6 80	54,314	4 64
1997	919,038	7 43	15,662	7 12	274,295	7 49	73,879	7 39	15,291	7 97	18,628	7 72	133,829	7 60	41,561	7 66	136,182	7 05	128,381	7 61	81,340	7 11
Personal Income (millions of constant 1982 $)																						
Actual																						
1982	367,781		6,606		106,096		31,655		7,088		8,140		52,705		17,624		53,969		47,864		34,132	
1989	438,589	2 75	7,393	1 70	131,743	3 13	34,424	1 25	6,835	-0 51	8,713	1 01	63,689	2 98	19,325	1 36	66,196	3 27	60,325	3 72	39,928	2 43
Projected																						
1990	444,064	1 26	7,677	3 84	132,150	0 31	35,755	3 87	7,209	5 47	8,860	1 02	64,166	0 75	19,869	2 82	66,978	1 18	61,512	1 97	39,888	-0 10
1997	490,058	1 48	8,351	1 25	146,257	1 52	39,394	1 45	8,153	1 87	9,933	1 69	71,381	1 60	22,162	1 65	72,817	1 20	69,457	1 61	43,373	1 25
Per Capita Personal Income (current $)																						
Actual																						
1982	11,467		9,470		12,870		10,870		10,500		10,050		11,070		11,049		10,860		11,540		10,929	
1989	17,175	7 11	13,240	5 69	19,630	7 49	15,509	8 10	13,259	3 75	13,830	5 38	16,730	7 30	15,350	5 56	16,420	7 31	17,730	7 65	16,640	7 47
Projected																						
1990	18,188	5 90	14,389	8 68	20,569	4 89	16,819	8 45	14,769	11 39	14,720	6 44	17,599	5 19	16,480	7 36	17,400	5 97	18,939	6 25	17,480	5 05
1997	27,843	7 43	21,890	7 45	31,240	7 39	25,440	7 32	22,960	7 92	22,190	7 25	28,650	7 35	25,339	7 68	29,309	7 31	28,609	7 41	29,960	7 75
Per Capita Personal Income (constant 1982 $)																						
Actual																						
1982	11,467		9,470		12,879		10,870		10,500		10,050		11,070		11,049		10,860		11,540		10,929	
1989	13,212	2 17	10,190	1 09	15,100	2 48	11,929	1 39	10,200	-0 41	10,639	0 82	12,870	2 32	11,809	0 98	12,629	2 33	13,639	2 59	12,799	2 44
Projected																						
1990	13,357	1 10	10,570	3 73	15,120	0 13	12,360	3 61	10,650	0 37	10,809	1 60	12,919	0 38	12,100	2 46	12,779	1 19	13,840	1 47	12,840	0 32
1997	14,741	1 48	11,869	1 49	16,880	1 48	13,570	1 40	12,240	1 83	11,940	1 36	14,210	1 43	13,509	1 66	14,029	1 40	15,259	1 46	14,370	1 70
Population (000)																						
Actual																						
1982	32,034		697		8,383		2,910		674		808		4,754		1,594		4,956		4,140		3,118	
1989	32,738	0 31	716	0 38	8,605	0 38	2,845	-0 32	661	-0 28	808	0 00	4,880	0 38	1,614	0 18	5,170	0 82	4,383	0 77	3,076	-0 19
Projected																						
1990	32,884	0 45	718	0 26	8,645	0 46	2,882	0 80	657	-0 61	812	0 50	4,911	0 64	1,624	0 62	5,185	0 29	4,397	0 78	3,073	-0 10
1997	33,814	0 32	723	0 10	8,877	0 38	2,936	0 37	673	0 35	848	0 65	5,077	0 48	1,656	0 30	5,233	0 13	4,537	0 45	3,051	-0 10
Population Age 65 and Over (000)																						
Actual																						
1982	3,941		94		898		398		84		90		589		211		668		499		413	
1989	4,318	1 37	103	1 37	1,025	2 08	429	1 07	90	1 02	102	1 90	652	1 53	226	1 02	721	1 18	555	1 60	415	0 07
Projected																						
1990	4,373	1 27	104	0 97	1,042	1 68	434	1 17	91	1 11	104	1 98	662	1 53	228	0 88	728	1 11	565	1 80	414	-0 24
1997	4,609	0 77	108	0 55	1,128	1 18	460	0 66	96	0 78	112	1 10	709	0 99	240	0 75	755	0 51	600	0 88	402	-0 41

Table E7. Employment, Income and Population--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Southwest Region and Districts

	Southwest		Albuquerque		Austin		Cheyenne		Dallas		Denver		Houston		Oklahoma City		Phoenix		Salt Lake City		Wichita	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (000)																						
Actual																						
1982	13,278		523		1,818		240		3,185		1,457		1,930		1,348		1,139		621		1,019	
1989	14,529	1 35	607	2 29	1,934	0 91	210	-1 79	3,390	0 92	1,596	1 36	2,054	0 92	1,251	-1 01	1,581	5 54	749	2 94	1,157	1 93
Projected																						
1990	14,706	1 22	616	1 48	1,967	1 71	208	-0 95	3,447	1 68	1,601	0 31	2,090	1 75	1,248	-0 24	1,599	1 14	770	2 80	1,160	0 26
1997	16,425	1 67	690	1 72	2,207	1 74	221	0 89	3,869	1 75	1,819	1 95	2,348	1 75	1,333	0 97	1,834	2 10	854	1 56	1,252	1 13
Personal Income (millions of current $)																						
Actual																						
1982	347,726		13,048		48,905		6,262		77,217		38,929		54,044		36,815		29,838		14,130		26,538	
1989	520,770	7 11	20,463	6 12	73,798	7 27	6,809	1 25	114,948	6 98	58,911	7 33	78,331	6 42	48,320	3 89	57,336	13 17	22,578	8 54	41,278	6 38
Projected																						
1990	557,946	7 14	21,973	7 38	79,053	7 12	7,250	6 48	122,995	7 00	63,041	7 01	83,822	6 75	49,157	6 12	61,887	7 59	24,699	9 39	44,469	7 74
1997	900,747	6 78	35,570	6 84	129,378	9 09	10,991	7 37	199,595	8 90	102,112	6 85	138,669	9 40	74,586	7 39	102,033	9 34	38,727	6 11	69,088	7 91
Personal Income (millions of constant 1982 $)																						
Actual																						
1982	347,716		13,047		48,904		6,262		77,215		38,928		54,043		36,814		29,837		14,129		26,537	
1989	400,580	2 17	15,739	2 95	56,764	2 30	5,237	-2 34	88,415	2 07	45,313	2 34	60,250	1 64	35,828	-0 46	44,101	6 83	17,365	3 27	31,748	1 61
Projected																						
1990	409,751	2 29	16,136	2 52	58,057	2 28	5,324	1 66	90,327	2 16	46,297	2 17	61,412	1 93	36,100	1 32	45,302	2 72	18,138	4 45	32,658	2 87
1997	480,302	2 46	18,966	2 51	68,987	2 89	5,860	1 44	106,430	2 55	54,449	2 52	73,942	2 91	39,771	1 45	54,407	2 87	20,650	1 96	36,840	1 83
Per Capita Personal Income (current $)																						
Actual																						
1982	11,371		9,480		9,500		12,250		12,120		12,600		13,890		11,330		10,279		9,019		11,799	
1989	15,376	5 03	13,188	5 56	12,600	4 88	14,120	2 18	16,269	4 91	17,470	5 52	17,960	4 48	14,139	3 54	15,830	7 71	13,000	6 31	16,170	5 29
Projected																						
1990	16,334	6 23	14,059	6 76	13,360	6 03	15,070	6 73	17,309	6 26	18,529	6 06	19,049	6 06	14,970	5 88	16,700	5 50	14,029	7 92	17,359	7 35
1997	24,987	7 58	21,519	7 58	20,579	7 72	22,319	6 87	27,079	8 06	28,210	7 48	29,019	7 48	22,099	6 80	25,440	7 48	20,809	6 90	26,710	7 70
Per Capita Personal Income (constant 1982 $)																						
Actual																						
1982	11,371		9,480		9,500		12,250		12,120		12,600		13,890		11,330		10,279		9,019		11,789	
1989	11,829	0 57	10,128	0 98	8,890	0 29	10,860	-1 02	12,529	0 48	13,440	0 95	13,820	0 14	10,878	-0 57	12,179	2 64	10,000	1 55	12,440	0 78
Projected																						
1990	11,996	1 42	10,330	1 98	9,809	1 23	11,070	1 93	12,710	1 44	13,810	1 26	13,990	1 23	10,990	1 02	12,269	0 74	10,299	2 99	12,750	2 49
1997	13,330	1 58	11,480	1 58	10,980	1 71	11,899	1 07	14,440	1 94	15,038	1 50	15,480	1 52	11,779	1 03	13,558	1 50	11,100	1 11	14,240	1 67
Population (000)																						
Actual																						
1982	30,542		1,374		5,141		511		6,361		3,066		3,944		3,245		2,899		1,565		2,416	
1989	33,400	1 34	1,532	1 64	5,775	1 76	476	-0 98	6,957	1 34	3,326	1 11	4,301	1 28	3,231	-0 06	3,571	3 31	1,713	1 35	2,518	0 60
Projected																						
1990	33,788	1 16	1,548	0 91	5,853	1 35	476	0 00	7,028	1 02	3,365	1 17	4,343	0 98	3,249	0 58	3,653	2 30	1,741	1 63	2,534	0 64
1997	36,432	1 12	1,671	1 16	6,355	1 23	498	0 66	7,451	0 86	3,660	1 25	4,831	1 61	3,413	0 72	4,056	1 58	1,882	1 16	2,815	0 46
Population Age 65 and Over (000)																						
Actual																						
1982	3,037		126		499		39		666		264		277		388		343		119		315	
1989	3,549	2 41	156	3 40	576	2 20	43	1 47	753	1 87	311	2 54	341	3 30	418	1 07	461	4 91	143	2 88	347	1 45
Projected																						
1990	3,617	1 92	160	2 56	587	1 91	43	0 00	765	1 59	318	1 61	348	2 05	423	1 20	477	3 47	147	2 80	351	1 15
1997	4,022	1 60	181	1 88	641	1 31	47	1 33	827	1 16	353	1 67	427	3 24	455	1 08	554	2 31	165	1 75	372	0 85

Table E8. Employment, Income and Population--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Western Region and Districts

	Western		Anchorage		Boise		Honolulu		Laguna Niguel		Las Vegas		Los Angeles		Portland		Sacramento		San Francisco		San Jose		Seattle	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (000)																								
Actual																								
1982	15,104		221		346		441		---		443		---		1,063		---		---		---		1,735	
1989	18,925	3 01	246	1.62	398	2 15	547	3 43	3,068	---	631	6 06	4,863	---	1,308	3 29	1,597	---	1,709	---	2,341	---	2,217	3 97
Projected																								
1990	19,255	1 74	243	-1 22	409	2 76	550	0 55	3,114	1 50	652	3 33	4,937	1 52	1,326	1.36	1,621	1 50	1,734	1 46	2,378	1 58	2,291	3 34
1997	21,701	1 81	273	1 76	447	1 33	616	1 71	3,520	1 66	781	2 83	5,579	1 66	1,478	1 64	1,832	1 86	1,961	1 87	2,687	1 66	2,527	1.47
Personal Income (millions of current $)																								
Actual																								
1982	448,450		7,780		9,104		11,764		---		10,986		---		28,341		---		---		---		51,581	
1989	760,275	10 57	11,323	6 56	14,166	7 04	20,668	10 81	173,143	---	21,229	13 32	144,101	---	45,192	6 40	66,083	---	61,167	---	107,945	---	85,258	9.34
Projected																								
1990	842,304	7 95	12,532	10 66	15,239	7 57	22,441	8 58	187,173	8 10	23,183	9 20	154,579	7 27	48,271	6 81	103,644	7 87	65,019	7 28	116,308	7.75	93,315	9 45
1997	1,373,172	9 00	20,623	9 22	23,940	8 16	36,925	9 22	317,973	9 06	40,264	10 53	238,209	7 73	77,381	6 81	175,310	9 68	100,120	7 51	193,495	9 48	148,952	8 52
Personal Income (millions of constant 1982 $)																								
Actual																								
1982	448,440		7,780		9,104		11,764		---		10,986		---		28,340		---		---		---		51,560	
1989	600,166	4 83	8,709	1 75	10,896	2 81	15,897	5 02	133,177	---	16,329	6 95	110,839	---	34,760	3 24	73,904	---	47,048	---	83,029	---	65,578	3 68
Projected																								
1990	616,581	3 07	9,203	5 67	11,192	2 72	16,479	3 66	137,459	3 22	17,025	4 26	113,522	2 42	35,449	1 98	76,116	2 99	48,180	2 43	85,416	2 87	68,530	4 50
1997	732,213	2 62	10,996	2 78	12,765	2 01	19,669	2 76	169,553	3 34	21,470	3 73	127,020	1 70	41,250	2 34	93,461	3.26	53,367	1 54	103,177	2 87	79,425	2 27
Per Capita Personal Income (current $)																								
Actual																								
1982	12,739		17,160		9,289		11,720		---		12,460		---		10,590		---		---		---		12,009	
1989	16,966	6 98	21,160	3 33	13,730	6 88	18,210	7 91	19,990	---	18,740	7 17	18,690	---	15,740	6 95	19,660	---	22,680	---	18,880	---	17,589	6 64
Projected																								
1990	20,147	8 23	23,299	10 11	14,620	6 48	19,470	6 92	21,160	5 85	19,818	5 76	20,039	6 06	16,539	5 08	20,829	5 95	24,180	6 53	20,019	6 03	18,950	7.74
1997	30,658	7.45	37,360	8 02	22,160	7 37	30,049	7 76	32,639	7 75	29,700	7.12	30,289	7 31	25,170	7.46	31,759	7 50	36,010	7 01	30,210	7 27	28,720	7.37
Per Capita Personal Income (constant 1982 $)																								
Actual																								
1982	12,739		17,160		9,289		11,720		---		12,460		---		10,590		---		---		---		12,009	
1989	14,589	2 07	16,279	-0 73	10,558	1 99	14,009	2 79	15,379	---	14,409	2 21	14,528	---	12,110	2 05	15,120	---	17,450	---	14,519	---	13,529	1.81
Projected																								
1990	14,796	1 42	17,109	5 10	10,740	1 71	14,299	2 07	15,539	1 04	14,549	0 97	14,720	1 31	12,149	0.32	15,299	1.18	17,750	1.72	14,700	1 25	13,919	2 88
1997	16,348	1 50	19,920	2.35	11,820	1 44	16,019	1 72	17,410	1 72	15,840	1.27	16,150	1.39	13,419	1 49	16,940	1 53	19,200	1.17	16,109	1.37	15,309	1.43
Population (000)																								
Actual																								
1982	35,160		452		981		1,003		---		879		---		2,673		---		---		---		4,287	
1989	40,570	2 20	528	2 40	1,017	0 52	1,119	1 85	8,540	---	1,117	3 87	7,522	---	2,831	0 84	4,820	---	2,059	---	5,638	---	4,779	1 64
Projected																								
1990	41,352	1 93	532	0 76	1,031	1 36	1,140	1 88	8,750	2 46	1,157	3 56	7,830	1 44	2,886	1 94	4,922	2 12	2,686	1.02	5,747	1.93	4,871	1 93
1997	45,283	1 36	558	0 70	1,092	0 85	1,242	1 28	9,650	1 60	1,371	2 64	7,950	0 60	3,108	1.10	5,581	1.91	2,811	0 68	6,476	1 81	5,244	1 09
Population Age 65 and Over (000)																								
Actual																								
1982	3,622		13		101		85		---		77		---		324		---		---		---		462	
1989	4,460	3 36	20	7 69	118	2.55	115	5 04	843	---	120	7 08	984	---	393	3 04	502	---	307	---	506	---	571	3 37
Projected																								
1990	4,607	2 83	20	0 00	122	2 52	119	3 48	871	3 32	126	5 00	1,009	2.54	403	2.54	517	2 99	312	1.83	520	2.77	568	2 08
1997	5,220	1 90	22	1 43	133	1.29	138	2.28	1,025	2 53	158	3 63	1,107	1.39	450	1 67	595	2.16	337	1 14	600	2 20	655	1.63

Table E9. Employment, Income and Population--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Service Centers

	Andover		Brookhaven		Philadelphia		Atlanta		Memphis		Cincinnati		Kansas City		Austin		Ogden		Fresno	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Civilian Employment (000)																				
Actual																				
1982	6,702		6,796		10,249		7,884		9,366		12,299		12,323		9,821		10,047		10,020	
1989	10,105	2 30	10,025	1 99	12,094	2 57	10,545	4 82	10,994	2 45	14,348	2 38	14,103	2 06	10,393	0 83	12,191	3 05	12,528	3 58
Projected																				
1990	10,150	0 45	10,076	0 51	12,282	1 55	10,845	2 84	11,003	0.08	14,398	0 35	14,137	0 24	10,528	1 30	12,397	1 69	12,713	1.48
1997	10,787	0 87	10,732	0 93	13,194	1.06	12,275	1.88	11,855	1.11	15,189	0 78	15,054	0 93	11,697	1.59	13,849	1.67	14,383	1.85
Personal Income (millions of current $)																				
Actual																				
1982	235,586		249,079		271,344		202,921		219,559		328,296		328,330		258,587		289,670		287,399	
1989	417,316	11 02	428,517	10 29	457,974	9 83	381,034	12 60	353,988	8 75	516,367	8 18	515,232	8.13	375,136	6 44	473,837	9.08	507,024	10 92
Projected																				
1990	444,281	6.46	456,069	6 43	488,542	6 67	411,902	7.85	379,083	7 09	548,809	6 28	545,279	5 63	401,269	6 97	512,279	8 11	546,120	7.71
1997	677,575	7.50	686,066	7 26	751,338	7 66	672,231	8 03	581,348	8 00	824,717	7 18	827,896	7 40	646,884	8 74	831,455	8.90	898,722	8 91
Personal Income (millions of constant 1982 $)																				
Actual																				
1982	235,581		249,071		271,338		202,916		219,553		328,284		328,321		258,560		289,664		287,392	
1989	320,984	5.18	329,604	4 62	352,260	4 26	293,773	6 40	272,276	3 43	397,181	3 00	396,303	2 96	288,544	1.66	364,458	3 69	389,990	5.10
Projected																				
1990	326,277	1 65	334,951	1 62	358,783	1 85	302,499	2 97	276,393	2 25	403,044	1 48	400,449	1 05	294,690	2.13	376,211	3 22	401,066	2 84
1997	361,300	1 53	365,630	1.32	400,635	1 67	358,453	2 84	315,324	1 90	439,767	1 30	441,459	1 46	344,936	2.44	443,352	2.55	472,826	2.56
Per Capita Personal Income (current $)																				
Actual																				
1982	12,239		13,591		11,821		10,431		8,157		10,552		11,603		11,487		11,506		13,139	
1989	20,856	9 82	22,377	9 24	18,885	8 30	16,584	8 43	13,907	7 41	18,210	7 66	17,557	7 33	15,215	4 64	18,702	8 45	19,625	7 05
Projected																				
1990	21,951	6 27	23,707	6 35	19,820	6 07	17,568	6 93	14,823	6 59	17,234	6 32	18,551	5 66	16,165	6 24	17,812	6 65	20,613	6.05
1997	33,483	7 49	35,938	7.29	28,892	7.26	26,512	7 27	22,641	7.53	26,074	7 33	26,174	7.41	24,833	7.66	27,159	7.50	31,645	7.43
Per Capita Personal Income (constant 1982 $)																				
Actual																				
1982	12,239		13,581		11,821		10,431		8,157		10,552		11,603		11,487		11,506		13,139	
1989	15,889	4 28	17,213	3 81	14,373	3 08	12,757	3.19	10,899	2.40	12,469	2 60	13,505	2 34	11,704	0 27	12,848	1 67	15,096	2.13
Projected																				
1990	16,122	1 47	17,477	1 53	14,557	1 28	12,902	1.14	10,898	1.78	12,657	1 51	13,624	0 88	11,872	1.44	13,082	1 82	15,285	1 25
1997	17,844	1 53	19,164	1.38	15,940	1.36	14,136	1 37	12,073	1.58	13,904	1 41	15,024	1.47	13,242	1.65	14,483	1.53	16,875	1 49
Population (000)																				
Actual																				
1982	19,225		18,305		22,927		19,430		23,948		31,075		26,261		22,481		25,146		21,848	
1989	19,923	0 52	18,884	0 45	24,170	0 77	22,711	2 41	25,101	0 69	31,417	0 18	26,939	0 34	24,314	1 18	27,977	1 81	25,478	2 37
Projected																				
1990	20,018	0 48	18,956	0 38	24,379	0 86	23,190	2 11	25,284	0 77	31,482	0 24	29,073	0 46	24,553	0 98	28,445	1 67	25,953	1 88
1997	20,473	0 32	19,300	0 26	25,412	0 81	25,835	1 51	26,407	0 63	31,960	0 22	29,711	0 31	26,338	1 04	30,953	1 26	28,329	1 31
Population Age 65 and Over (000)																				
Actual																				
1982	2,410		2,279		2,897		2,661		2,892		3,466		3,482		2,272		2,626		2,240	
1989	2,633	1 32	2,528	1 55	3,137	2 33	3,334	3 48	3,093	2 13	3,892	1 78	3,787	1 38	2,591	2 01	3,204	3.14	2,755	3 28
Projected																				
1990	2,667	1 29	2,559	1 31	3,189	1.66	3,435	3 03	3,144	1 65	3,938	1 18	3,848	1 29	2,634	1 68	3,288	2 56	2,831	2 78
1997	2,778	0 60	2,710	0 84	3,445	1 15	3,952	2.15	3,408	1 20	4,151	0.77	4,053	0.77	2,903	1 46	3,688	1 75	3,207	1.90

Employment, Income, and Population: Table E1-E9

1. Detail may not add due to rounding.

2. All annual growth rates are computed on a *compound* basis.

3. Growth rates that round to zero are denoted as zero.

4. Economic and demographic data are not available for the Assistant Commissioner (International).

5. Data for IRS regions are presented as though the alignment that became effective October 1, 1984 has existed since 1982.

6. Data for IRS service centers are presented as though the alignment that became effective January 1, 1989 has existed since 1982.

7. Economic and demographic data are not shown for 1982 for those IRS districts which havebeen created or subdivided since 1982 (i.e., Fort Lauderdale and Jacksonville in 1987; and Laguna Niguel, Sacramento, San Jose, Los Angeles and San Francisco in 1983).

8. District data may not add to regional totals due to inconsistencies in state-level data collection methods and/or the deletion of data for those IRS districts which have been created or subdivided since 1982.

Table R1. Tax Return Filings--Actual: 1982, 1989 and Projected: 1990, 1997--United States and IRS Regions

	United States		North Atlantic		Mid-Atlantic		Southeast		Central		Midwest		Southwest		Western		AC(International)	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Returns (000)																		
Actual																		
1982	169,924		23,206		22,587		29,318		20,708		23,978		22,038		27,443		649	
1989	196,924	2 44	27,160	2 43	26,911	2 74	35,805	3 18	23,042	1 81	26,131	1 26	24,975	1 90	33,651	3 23	1,247	13 18
Projected																		
1990	202,774	1.94	27,441	1 03	27,162	0 93	36,555	2 09	23,395	1 53	26,553	1 81	25,477	2 01	34,483	2 47	1,706	36.90
1997	215,829	0 91	28,526	0 57	28,140	1 04	39,711	1 23	24,348	0 58	27,292	0 40	26,972	0 84	37,856	1.40	1,783	0 63
Total Individual Returns (000)																		
Actual																		
1982	95,421		12,870		13,105		16,684		12,278		13,252		12,264		14,959		205	
1989	110,129	2 20	14,496	2 05	15,101	2 18	20,119	2 94	13,542	1 47	14,384	1 22	13,780	1.77	18,113	3 01	593	27 05
Projected																		
1990	112,381	2 04	14,550	0 37	15,062	-0 13	20,608	2 43	13,760	1 61	14,640	1 82	14,107	2 37	18,578	2 55	1,053	77 45
1997	120,447	1 03	15,123	0 56	16,084	0 95	22,700	1 45	14,332	0 59	15,258	0 60	15,298	1 21	20,487	1.47	1,184	1.51
Form 1040 (000)																		
Actual																		
1982	57,801		7,951		7,644		9,127		7,443		8,819		7,177		9,665		175	
1989	71,872	3 43	9,787	3 30	9,858	3 78	12,155	4 74	8,997	2 98	9,747	1 87	8,788	3 21	12,242	3 81	299	10 07
Projected																		
1990	74,333	3 71	9,995	2 13	9,911	2 82	12,917	6 26	9,296	3 33	10,111	3 74	9,110	3 66	12,586	2 82	407	36 02
1997	81,027	1.29	10,638	0 92	11,008	1 58	14,583	1 84	10,141	1.30	10,880	1 09	9,809	1.10	13,518	1 06	450	1 52
Form 1040A (000)																		
Actual																		
1982	37,819		4,725		5,491		7,557		4,833		4,633		5,087		5,293		29	
1989	18,713	-7 18	2,237	-7 52	2,566	-7 57	4,366	-6 03	2,064	-8 19	2,043	-7 99	2,526	-7 19	2,888	-6 49	23	-3 02
Projected																		
1990	18,337	-2 01	2,186	-2 28	2,428	-5 40	4,125	-5 52	1,997	-3 25	1,950	-4 53	2,483	-1 72	2,992	3 81	178	660 18
1997	20,645	1 80	2,248	0 40	2,483	0 33	4,734	2 11	1,852	-1 04	1,928	-0 16	3,102	3 56	4,127	5 42	171	-0.43
Form 1040EZ (000)																		
Actual																		
1989	19,484		2,473		2,877		3,598		2,481		2,594		2,485		2,984		11	
Projected																		
1990	19,413	-0 36	2,369	-4 21	2,743	-4 65	3,565	-0 91	2,467	-0 56	2,585	-0 38	2,514	1 98	2,997	0 45	172	1496 86
1997	18,404	-0 74	2,238	-0 79	2,593	-0 78	3,383	-0 73	2,339	-0 74	2,450	-0 74	2,387	-0 72	2,842	-0 74	173	0 01
Corporation Returns (000)																		
Actual																		
1982	2,967		499		385		528		319		405		380		435		16	
1989	4,187	5 02	726	6 56	571	6 88	813	7 72	433	5 14	511	3 75	514	5 03	604	5 56	23	5 58
Projected																		
1990	4,344	3 51	760	4 53	596	4 45	849	4 47	447	3 27	524	2 44	525	2 06	620	2 53	22	-1 07
1997	5,715	4 51	1,071	5 84	830	5 58	1,170	5 39	557	3 51	630	2 91	843	3 24	789	3 91	23	0 52
Employment Returns (000)																		
Actual																		
1982	25,736		3,538		3,211		4,771		2,899		3,560		3,496		4,075		185	
1989	28,823	1 71	4,094	2 24	3,725	2 28	5,421	1 95	3,170	1 34	3,795	0 84	3,677	0 74	4,730	2 30	210	1 95
Projected																		
1990	28,845	0 42	4,102	0 19	3,734	0 23	5,449	0 51	3,180	0 31	3,801	0 14	3,681	0 12	4,786	1 18	212	1 01
1997	30,410	0 ?	4,250	0 52	3,852	0 45	5,797	0 91	3,260	0 38	3,894	0 35	3,862	0 70	5,273	1 45	222	0 64

Table R2. Tax Return Filings--Actual: 1982, 1989 and Projected: 1990, 1997--IRS North Atlantic Region and Districts

	North Atlantic		Albany		Augusta		Boston		Brooklyn		Buffalo		Burlington		Hartford		Manhattan		Portsmouth		Providence	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Returns (000)																						
Actual																						
1982	23,206		1,459		814		4,479		4,915		3,067		409		2,671		3,942		740		710	
1989	27,160	2 43	1,794	3 27	1,027	3 74	5,442	3 07	5,570	1 90	3,445	1 78	526	4 10	3,193	2 79	4,292	1 27	1,013	5 26	858	2 98
Projected																						
1990	27,441	1 03	1,821	1 53	1,040	1 33	5,507	1 20	5,608	0 69	3,481	1 04	536	1 77	3,227	1 07	4,325	0 77	1,029	1 61	866	0 93
1997	28,526	0 57	1,932	0 87	1,121	1 11	5,823	0 82	5,761	0 39	3,582	0 42	582	1 23	3,309	0 36	4,395	0 23	1,119	1 25	902	0 58
Total Individual Returns (000)																						
Actual																						
1982	12,676		849		459		2,545		2,781		1,827		210		1,442		1,742		415		406	
1989	14,496	2 05	1,029	3 03	559	3 12	2,944	2 24	3,083	1 55	2,040	1 67	282	3 53	1,871	2 28	1,887	1 19	550	4 62	472	2 32
Projected																						
1990	14,550	0 37	1,042	1 24	563	0 80	2,950	0 20	3,088	0 16	2,060	0 96	286	1 65	1,872	0 06	1,885	-0 07	551	0 32	472	0 07
1997	15,123	0 56	1,081	0 53	595	0 79	3,072	0 59	3,239	0 70	2,116	0 38	284	0 98	1,885	0 12	1,988	0 76	593	1 07	473	0 03
Form 1040 (000)																						
Actual																						
1982	7,951		532		247		1,548		1,668		1,168		124		880		1,128		234		226	
1989	9 787	3 30	696	4 41	338	5 16	1,855	3 78	2,194	2 50	1,401	2 85	167	4 85	1,082	3 29	1,318	2 46	341	6 56	295	4 41
Projected																						
1990	9,995	2 13	713	2 41	349	3 70	1,969	1 74	2,222	1 25	1,428	1 92	171	2 91	1,123	3 74	1,342	1 74	357	4 68	302	2 20
1997	10,638	0 92	752	0 78	381	1 32	2,119	0 93	2,361	0 90	1,526	0 88	187	1 28	1,169	0 59	1,463	1 29	371	0 56	309	0 34
Form 1040A (000)																						
Actual																						
1982	4,725		317		212		997		913		659		66		583		616		182		180	
1989	2,237	-7 52	147	-7 66	98	-7 59	379	-8 85	536	-5 90	279	-8 24	40	-7 58	240	-8 19	360	-5 94	80	-8 00	76	-8 28
Projected																						
1990	2,188	-2 28	145	-1 86	95	-4 09	383	1 07	528	-1 50	274	-1 83	40	-0 66	226	-5 92	347	-3 59	74	-7 44	74	-2 29
1997	2,248	0 40	156	1 18	100	0 80	406	0 86	555	0 74	251	-1 20	46	1 98	212	-0 86	338	-0 33	108	6 60	73	-0 13
Form 1040EZ (000)																						
Actual																						
1989	2,473		186		124		610		352		361		55		348		207		129		101	
Projected																						
1990	2,368	-4 21	185	-0 68	120	-3 16	578	-5 30	338	-4 16	359	-0 60	55	-0 47	323	-7 28	196	-5 45	120	-6 43	96	-4 39
1997	2,238	-0 78	173	-0 93	113	-0 77	547	-0 77	322	-0 68	340	-0 74	52	-0 71	303	-0 66	184	-0 90	113	-0 83	91	-0 62
Corporation Returns (000)																						
Actual																						
1982	498		24		13		65		113		44		6		50		133		12		17	
1989	728	6 56	40	9 62	21	6 85	126	8 88	175	7 66	58	4 76	13	8 66	75	7 14	173	4 31	22	11 57	24	8 10
Projected																						
1990	760	4 53	43	8 68	21	1 38	124	-1 57	193	10 39	61	3 37	14	3 72	78	1 19	183	6 10	22	0 48	24	-1 19
1997	1,071	5 84	70	9 33	27	4 21	168	4 99	304	6 22	78	4 07	18	5 16	87	2 23	248	5 01	38	8 66	34	6 41
Employment Returns (000)																						
Actual																						
1982	3,538		202		129		624		679		401		77		381		821		114		111	
1989	4,094	2 24	253	3 63	168	4 27	756	3 07	784	2 20	453	1 67	89	4 10	453	2 69	833	0 22	158	5 70	134	2 69
Projected																						
1990	4,102	0 19	255	0 47	169	0 60	761	0 50	783	-0 08	454	0 22	100	0 85	454	0 38	830	-0 44	160	0 89	135	0 91
1997	4,250	0 52	268	0 74	178	0 74	803	0 79	799	0 29	477	0 71	105	0 71	478	0 68	832	0 05	188	0 78	143	0 82

Table R3. Tax Return Filings--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Mid-Atlantic Region and Districts

	Mid-Atlantic		Baltimore		Newark		Philadelphia		Pittsburgh		Richmond		Wilmington	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Returns (000)														
Actual														
1982	22,587		3,772		6,129		5,310		3,094		3,817		464	
1989	26,911	2 74	4,615	3 19	7,326	2 79	6,277	2 60	3,322	1 05	4,784	3 66	578	3 50
Projected														
1990	27,162	0 93	4,691	1 65	7,198	-1.75	6,403	2 01	3,378	1 70	4,900	2.20	592	2 48
1997	29,140	1 04	5,067	1 15	7,564	0 73	6,896	1.10	3,544	0 70	5,409	1 49	659	1.83
Total Individual Returns (000)														
Actual														
1982	13,105		2,222		3,470		3,058		1,833		2,265		258	
1989	15,101	2 18	2,588	2 42	4,007	2 21	3,503	2 06	1,906	0 57	2,773	3 20	315	3 14
Projected														
1990	15,082	-0 13	2,634	1 39	3,802	-5 12	3,557	1 55	1,939	1 75	2,826	1.99	322	2 10
1997	16,084	0 95	2,833	1 06	3,985	0 69	3,749	0 77	2,024	0 63	3,138	1 57	356	1 53
Form 1040 (000)														
Actual														
1982	7,644		1,336		2,047		1,784		1,031		1,293		153	
1989	9,658	3 76	1,682	3 70	2,612	3 94	2,214	3 44	1,182	2 09	1,787	5 24	202	4 52
Projected														
1990	9,911	2 62	1,752	4 19	2,609	-0 11	2,303	3 99	1,210	2 39	1,825	3 33	211	4 73
1997	11,008	1 58	1,997	1 99	2,747	0 76	2,543	1.49	1,404	2 29	2,076	1 96	242	2 07
Form 1040A (000)														
Actual														
1982	5,461		886		1,423		1,273		802		972		105	
1989	2,566	-7 57	413	-7 63	684	-7 41	612	-7 42	383	-7 82	445	-7 75	50	-7 54
Projected														
1990	2,428	-5 40	397	-3 95	591	-13 65	588	-3 86	382	-0 11	441	-0 71	48	-3 56
1997	2,483	0 33	379	-0 64	673	1 99	571	-0 42	274	-3 48	531	2 90	55	2 13
Form 1040EZ (000)														
Actual														
1989	2,677		503		711		677		361		561		64	
Projected														
1990	2,743	-4 65	485	-3 59	602	-15 29	666	-1 57	367	1 49	561	-0 10	63	-1 81
1997	2,593	-0 78	457	-0 81	585	-0 89	635	-0 67	346	-0 80	530	-0 77	58	-0 74
Corporation Returns (000)														
Actual														
1982	385		62		146		74		33		59		12	
1989	571	6 68	97	8 26	209	6 20	109	6 70	44	4 87	93	8 39	18	7 42
Projected														
1990	596	4 45	103	5 57	217	3 76	114	4 22	46	4 64	97	4 30	19	7 53
1997	830	5 59	144	5 69	295	5 11	173	7 36	62	5 04	130	4 88	26	5 08
Employment Returns (000)														
Actual														
1982	3,211		549		897		711		403		580		70	
1989	3,725	2 29	647	2 55	1,046	2 37	807	1 94	438	1 24	701	2 98	85	2 96
Projected														
1990	3,734	0 23	644	-0 52	1,048	0 16	810	0 30	440	0 26	707	0 80	86	1 06
1997	3,852	0 45	659	0 34	1,070	0 30	846	0 64	459	0 62	730	0 46	89	0 57

Table R4. Tax Return Filings--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Southeast Region and Districts

	Southeast		Atlanta		Birmingham		Columbia		Fort Lauderdale		Greensboro		Jackson		Jacksonville		Little Rock		Nashville		New Orleans	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Returns (000)																						
Actual																						
1982	29,316		3,602		2,290		1,969		---		3,979		1,462		---		1,464		2,925		2,797	
1989	35,805	3 16	4,601	3 97	2,674	2 40	2,400	3 13	5,706	---	4,998	3 66	1,617	1 51	5,850	---	1,663	1 95	3,484	2.73	2,811	0 07
Projected																						
1990	36,555	2 09	4,721	2 60	2,722	1 78	2,474	3 06	5,845	2 44	5,076	1 56	1,646	1 80	6,002	2 59	1,686	1 37	3,542	1 66	2,841	1.07
1997	39,711	1.23	5,120	1 21	2,880	0 83	2,709	1.36	6,783	2 29	5,546	1.32	1,679	0 29	6,604	1 43	1,777	0 77	3,707	0 66	2,906	0 33
Total Individual Returns (000)																						
Actual																						
1982	16,684		2,197		1,401		1,208		---		2,383		873		---		822		1,783		1,632	
1989	20,119	2 94	2,737	3 59	1,623	2 26	1,461	2 99	2,565	---	2,927	3 26	969	1 59	3,166	---	931	1 90	2,095	2 50	1,624	-0 06
Projected																						
1990	20,608	2 43	2,824	3 19	1,656	2 05	1,515	3 67	2,649	2 46	2,974	1 60	992	2 36	3,264	3 09	947	1 71	2,134	1 84	1,653	1 82
1997	22,700	1 45	3,083	1.31	1,775	1 02	1,661	1.38	3,190	2 62	3,256	1 35	1,029	0 53	3,681	1 83	1,024	1.16	2,228	0 63	1,773	1 04
Form 1040 (000)																						
Actual																						
1982	9,127		1,138		805		645		---		1,274		428		---		469		938		874	
1989	12,155	4.74	1,544	5 10	1,023	3 87	818	3 82	1,751	---	1,848	6 43	504	2 81	1,967	---	587	3 59	1,180	3 89	932	0 95
Projected																						
1990	12,917	6 26	1,661	7 57	1,068	4 36	893	9 25	1,853	5 85	1,917	3 77	545	8 25	2,102	6 84	624	6 32	1,259	6 62	995	6 70
1997	14,583	1 84	1,768	1 09	1,146	1 04	951	0 62	2,294	3 40	2,103	1 38	590	1 16	2,525	2 88	680	1 27	1,345	0 98	1,162	2 41
Form 1040A (000)																						
Actual																						
1982	7,557		1,049		596		563		---		1,109		446		---		353		845		758	
1989	4,366	-8 03	650	-5 43	383	-5 58	360	-5 15	395	---	560	-7 08	321	-4 03	555	---	207	-5 89	514	-5.59	440	-8 00
Projected																						
1990	4,125	-5 52	634	-2 44	347	-4 46	340	-5 59	360	-8 92	543	-2 95	300	-8 31	524	-5 75	185	-10 66	481	-8 51	411	-8 64
1997	4,734	2 11	787	3 43	400	2 16	443	4 32	488	5 06	666	3 23	300	0 00	550	0 73	213	2 16	510	0 86	376	-1 20
Form 1040EZ (000)																						
Actual																						
1989	3,598		542		238		283		439		520		145		644		137		400		252	
Projected																						
1990	3,585	-0 91	528	-2.53	241	2 07	281	-0 69	436	-0 81	513	-1 22	147	1 03	639	-0 74	138	0 70	384	-1.54	248	-1 48
1997	3,383	-0 73	507	-0 56	229	-0 74	268	-0 66	408	-0 92	466	-0 75	139	-0 72	606	-0 73	131	-0 72	374	-0 75	235	-0 75
Corporation Returns (000)																						
Actual																						
1982	528		80		32		31		---		84		21		---		24		38		58	
1989	813	7.72	98	8 93	44	5 17	48	8 89	205	---	93	8 54	28	4 20	143	---	30	3 99	53	5 73	72	3 40
Projected																						
1990	849	4 47	104	5 56	48	3 55	49	5 75	219	6 97	94	1 03	28	0 34	152	6 20	33	7.17	54	0 98	72	-0.37
1997	1,170	5 39	137	4 53	53	2 27	61	3 56	417	12 93	125	4 89	32	2 19	156	0 44	38	2 35	66	3 18	85	2 53
Employment Returns (000)																						
Actual																						
1982	4,771		614		387		328		---		654		281		---		245		475		472	
1989	5,421	1 95	729	2 69	416	1 05	371	1 87	852	---	765	2 44	265	0 25	809	---	256	0 63	525	1 52	431	-1 24
Projected																						
1990	5,449	0 51	731	0.29	417	0 28	374	0 62	858	0 81	788	0 54	267	0 54	814	0 63	257	0 56	527	0 34	433	0 35
1997	5,767	0 91	799	1.32	422	0 19	408	1 31	960	1.87	791	0 40	270	0 17	909	1 66	263	0 31	534	0 19	441	0 27

Table R5. Tax Return Filings--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Central Region and Districts

	Central		Cincinnati		Cleveland		Detroit		Indianapolis		Louisville		Parkersburg	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Returns (000)														
Actual														
1982	20,708		3,160		4,414		6,045		3,727		2,232		1,131	
1989	23,042	1 61	3,571	1 86	4,757	1 11	6,886	1 99	4,155	1 64	2,512	1 79	1,161	0 38
Projected														
1990	23,395	1 53	3,622	1 44	4,827	1 46	6,987	1 47	4,223	1 63	2,561	1 94	1,175	1 24
1997	24,348	0 58	3,741	0 47	5,004	0 52	7,305	0 65	4,437	0 72	2,656	0 53	1,204	0 35
Total Individual Returns (000)														
Actual														
1982	12,276		1,879		2,594		3,613		2,202		1,315		673	
1989	13,542	1 47	2,127	1 80	2,776	1 00	4,060	1 77	2,440	1 54	1,461	1 59	678	0 11
Projected														
1990	13,760	1 61	2,164	1 73	2,822	1 66	4,123	1 54	2,475	1 48	1,492	2 14	684	0 89
1997	14,332	0 59	2,231	0 44	2,977	0 78	4,278	0 54	2,615	0 60	1,532	0 38	699	0 32
Form 1040 (000)														
Actual														
1982	7,443		1,075		1,562		2,352		1,301		818		335	
1989	8,997	2 99	1,377	4 01	1,812	2 29	2,809	2 78	1,609	3 36	985	2 92	405	2 97
Projected														
1990	9,296	3 33	1,430	3 88	1,865	2 95	2,882	2 58	1,660	3 77	1,029	4 45	420	3 79
1997	10,141	1 30	1,531	1 01	2,126	2 00	3,094	1 05	1,806	1 17	1,099	0 97	485	2 10
Form 1040A (000)														
Actual														
1982	4,833		804		1,032		1,261		901		497		336	
1989	2,064	-8 19	330	-8 42	447	-8 10	491	-8 72	387	-8 15	248	-7 17	161	-7 47
Projected														
1990	1,997	-3 25	320	-3 01	442	-1 04	485	-1 34	365	-5 71	233	-6 05	153	-5 39
1997	1,852	-1 04	299	-0 96	364	-2 51	473	-0 34	391	1 03	215	-1 09	109	-4 04
Form 1040EZ (000)														
Actual														
1989	2,481		420		517		760		444		228		112	
Projected														
1990	2,467	-0 58	414	-1 58	515	-0 54	756	-0 46	441	-0 65	230	1 04	111	-0 57
1997	2,339	-0 74	401	-0 44	486	-0 80	712	-0 84	417	-0 77	218	-0 78	105	-0 79
Corporation Returns (000)														
Actual														
1982	319		43		69		97		60		33		17	
1989	433	5 14	58	4 83	87	3 92	143	8 80	78	4 62	48	5 57	20	2 35
Projected														
1990	447	3 27	58	0 41	90	3 41	148	3 14	83	5 24	48	4 49	20	1 28
1997	557	3 51	71	3 22	109	2 95	195	4 52	98	2 31	63	4 59	23	1 88
Employment Returns (000)														
Actual														
1982	2,899		428		600		838		510		351		173	
1989	3,170	1 34	465	1 24	638	0 85	963	2 14	557	1 32	376	1 05	172	-0 02
Projected														
1990	3,180	0 31	467	0 35	637	0 21	968	0 47	558	0 15	377	0 20	173	0 52
1997	3,260	0 36	478	0 35	655	0 39	992	0 36	573	0 40	384	0 28	177	0 32

Table R6. Tax Return Filings--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Midwest Region and Districts

	Midwest		Aberdeen		Chicago		Des Moines		Fargo		Helena		Milwaukee		Omaha		St. Louis		St. Paul		Springfield	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Returns (000)																						
Actual																						
1982	23,976		529		6,253		2,261		537		663		3,543		1,283		3,608		3,070		2,230	
1989	26,131	1 28	579	1 35	6,904	1 49	2,325	0 28	556	0.50	689	0.57	3,879	1 35	1,336	0.83	4,045	1 73	3,526	2 12	2,292	0.40
Projected																						
1990	26,553	1 61	587	1.38	7,004	1 45	2,370	1 94	564	1 57	699	1 47	3,943	1 65	1,355	1 42	4,131	2 11	3,570	1 25	2,329	1.64
1997	27,292	0 40	606	0 47	7,283	0 53	2,366	-0 02	587	0 58	702	0 06	4,061	0 43	1,378	0 24	4,257	0.44	3,738	0 66	2,336	0.04
Total Individual Returns (000)																						
Actual																						
1982	13,252		278		3,593		1,178		278		335		1,968		685		1,981		1,741		1,236	
1989	14,384	1.22	298	1 04	3,903	1 23	1,225	0 56	279	0 05	341	0 24	2,168	1 45	706	0 69	2,222	1.74	1,954	1 75	1,290	0 62
Projected																						
1990	14,646	1 82	306	2 54	3,941	0 98	1,267	3 50	279	0 28	348	2 27	2,212	2 06	721	2 15	2,280	2 58	1,969	0 77	1,322	2 52
1997	15,258	0 60	315	0 43	4,158	0 79	1,300	0 37	282	0 15	358	0 36	2,314	0 68	743	0 43	2,362	0 52	2,061	0 66	1,365	0 46
Form 1040 (000)																						
Actual																						
1982	8,619		197		2,209		847		191		236		1,258		448		1,250		1,201		790	
1989	9,747	1.87	202	1.14	2,468	1 67	920	1.24	198	0 38	250	0 81	1,446	2 13	496	1 52	1,530	3 20	1,381	2 14	857	1 22
Projected																						
1990	10,111	3 74	208	2 80	2,558	3 68	959	4 17	199	1 21	256	2 50	1,505	4 06	510	2 82	1,599	4 51	1,404	1 66	913	6 52
1997	10,880	1 09	212	0 30	2,763	1 14	1,061	1 53	199	0 09	272	0 90	1,614	1 04	523	0 35	1,730	1 17	1,518	1 15	988	1.17
Form 1040A (000)																						
Actual																						
1982	4,633		91		1,383		331		87		99		710		218		730		540		447	
1989	2,043	-7 99	41	-7 80	694	-7 12	119	-9 15	36	-8 41	39	-8 58	295	-8 34	85	-8 64	330	-7 82	187	-9 34	215	-7 40
Projected																						
1990	1,950	-4 53	41	-0 29	658	-5 51	121	1 17	34	-4 21	39	-1 53	282	-4 39	84	-1 27	315	-4 62	183	-1 92	195	-9 59
1997	1,928	-0 16	49	2 68	698	0 93	60	-7 15	38	1 77	35	-1 46	297	0 76	100	2 68	296	-0 89	180	-0 22	174	-1 50
Form 1040EZ (000)																						
Actual																						
1989	2,594		55		741		185		47		51		427		124		382		386		217	
Projected																						
1990	2,565	-0 38	57	3 68	726	-1 97	188	1 69	47	-0 17	53	4 07	425	-0 28	127	1 83	386	0 99	381	-1 13	214	-1.26
1997	2,450	-0 74	54	-0 71	696	-0 58	178	-0 69	45	-0 78	51	-0 74	403	-0 75	120	-0 73	337	-1 11	382	-0 71	203	-0 78
Corporation Returns (000)																						
Actual																						
1982	405		8		112		40		9		13		59		24		61		55		25	
1989	511	3 75	9	2 56	156	5 61	43	1 12	9	1 43	15	2 66	69	2 50	28	2 37	77	3 72	74	4 90	30	2 95
Projected																						
1990	524	2 44	10	1 44	161	3 30	43	0 95	10	1 78	15	2 18	70	1 52	29	2 86	78	1 83	76	3 16	31	2.31
1997	630	2 91	10	0 77	213	4 62	44	0 28	10	0 81	17	1 10	82	2 41	31	1 02	92	2 47	95	3 52	37	2 51
Employment Returns (000)																						
Actual																						
1982	3,560		94		831		364		96		120		520		214		542		458		324	
1989	3,795	0 94	99	0 82	911	1 39	349	-0 63	99	0 41	122	0 26	569	1 35	218	0.11	597	1 48	511	1.73	322	-0 09
Projected																						
1990	3,801	0 14	100	0 52	913	0 22	349	0.10	99	0 24	123	0 52	570	0 26	216	0 17	596	-0 22	513	0.49	321	-0 45
1997	3,894	0 35	104	0 61	938	0 38	356	0 30	104	0 66	128	0 62	582	0 29	225	0.55	605	0 22	528	0.40	324	0.16

Table R7. Tax Return Filings--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Southwest Region and Districts

	Southwest		Albuquerque		Austin		Cheyenne		Dallas		Denver		Houston		Oklahoma City		Phoenix		Salt Lake City		Wichita	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Returns (000)																						
Actual																						
1982	22,038		917		3,448		414		4,751		2,450		2,757		2,339		2,102		941		1,919	
1989	24,975	1.90	1,077	2.49	3,845	1.64	386	-0.94	5,488	2.22	2,773	1.88	3,121	1.88	2,353	0.06	2,787	4.85	1,066	2.20	2,060	1.05
Projected																						
1990	25,477	2.01	1,102	2.36	3,923	2.02	392	1.45	6,599	2.03	2,811	1.35	3,201	2.57	2,381	1.21	2,856	2.48	1,119	3.10	2,093	1.59
1997	26,972	0.64	1,169	1.12	4,224	1.10	417	0.92	5,902	0.77	2,972	0.82	3,339	0.62	2,376	-0.03	3,210	1.77	1,203	1.07	2,141	0.33
Total Individual Returns (000)																						
Actual																						
1982	12,264		536		1,916		218		2,592		1,346		1,662		1,265		1,151		554		1,004	
1989	13,780	1.77	622	2.28	2,231	2.35	196	-1.29	3,002	2.26	1,488	1.51	1,758	0.85	1,259	-0.07	1,514	4.50	632	2.00	1,076	1.02
Projected																						
1990	14,107	2.37	637	2.48	2,277	2.08	200	1.23	3,071	2.28	1,509	1.41	1,813	3.10	1,282	1.79	1,562	3.15	654	3.52	1,103	2.47
1997	15,298	1.21	686	1.10	2,572	1.85	204	0.22	3,387	1.47	1,601	0.87	1,902	0.70	1,310	0.31	1,787	2.08	708	1.16	1,142	0.61
Form 1040 (000)																						
Actual																						
1982	7,177		297		931		143		1,446		661		921		794		744		360		660	
1989	8,788	3.21	382	4.12	1,172	3.89	138	-0.58	1,894	4.42	1,039	2.58	1,025	1.62	836	0.74	1,072	6.31	444	3.35	786	2.73
Projected																						
1990	9,110	3.66	403	6.35	1,222	4.22	139	0.97	1,979	4.49	1,056	1.63	1,062	3.60	868	3.91	1,105	3.09	457	2.90	819	4.17
1997	9,809	1.10	415	0.46	1,319	1.14	146	0.72	2,121	1.03	1,113	0.77	1,140	1.04	920	0.85	1,206	1.30	516	1.93	910	1.59
Form 1040A (000)																						
Actual																						
1982	5,087		240		984		74		1,146		484		761		471		408		194		345	
1989	2,526	-7.19	131	-6.46	602	-5.54	26	-9.19	566	-7.23	180	-8.76	306	-6.81	226	-7.44	198	-7.35	71	-9.04	127	-9.01
Projected																						
1990	2,483	-1.72	124	-5.65	593	-1.53	26	-0.53	545	-3.71	178	-1.16	400	0.58	213	-5.47	208	5.23	73	2.42	122	-4.49
1997	3,102	3.58	166	4.81	815	5.35	24	-1.20	749	5.33	227	3.96	426	0.92	200	-0.66	344	9.33	72	-0.30	78	-5.06
Form 1040EZ (000)																						
Actual																						
1989	2,485		108		458		34		542		269		335		198		244		116		163	
Projected																						
1990	2,514	1.06	110	1.99	463	1.34	35	3.64	546	0.80	275	2.30	350	4.54	200	1.13	248	1.75	123	6.54	162	-0.33
1997	2,387	-0.72	105	-0.74	437	-0.78	33	-0.73	517	-0.77	261	-0.74	336	-0.57	189	-0.77	237	-0.63	117	-0.72	154	-0.74
Corporation Returns (000)																						
Actual																						
1982	380		14		47		6		82		50		49		42		37		20		31	
1989	514	5.03	19	4.30	62	4.45	9	0.75	109	4.83	72	6.22	71	6.23	51	3.17	59	8.78	25	3.70	38	2.95
Projected																						
1990	525	2.06	19	-0.22	64	2.77	9	0.66	112	2.26	74	2.19	74	4.22	52	2.30	60	1.46	25	0.66	38	-0.73
1997	643	3.24	22	2.48	78	3.30	9	0.37	140	3.64	92	3.54	98	4.76	59	1.78	79	4.51	27	1.07	40	0.63
Employment Returns (000)																						
Actual																						
1982	3,496		150		617		75		792		396		346		367		292		150		310	
1989	3,677	0.74	164	1.32	560	-1.32	68	-1.29	823	0.56	430	1.21	430	3.48	348	-0.78	379	4.24	157	0.81	318	0.35
Projected																						
1990	3,681	0.12	165	0.54	559	-0.32	69	0.28	822	-0.13	433	0.66	430	0.14	347	-0.15	382	0.80	158	0.46	316	-0.13
1997	3,862	0.70	172	0.65	588	0.74	72	0.69	859	0.65	463	0.99	448	0.59	359	0.49	408	0.99	167	0.85	326	0.37

Table R8. Tax Return Filings--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Western Region and Districts

	Western		Anchorage		Boise		Honolulu		Laguna Niguel		Las Vegas		Los Angeles		Portland		Sacramento		San Francisco		San Jose		Seattle	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Returns (000)																								
Actual																								
1982	27,443		342		661		776		---		688		---		2,137		---		---		---		3,319	
1989	33,651	3 23	515	7 26	725	1.37	935	2 93	6,901	---	920	4 82	6,058	---	2,394	1.72	4,051	---	2,752	---	4,426	---	3,973	2 81
Projected																								
1990	34,483	2.47	491	-4 79	746	2 95	959	2 58	7,172	3 93	970	5 35	6,196	2 32	2,431	1 54	4,171	2 97	2,702	-1 83	4,547	2 73	4,095	3 09
1997	37,856	1 40	539	1 40	787	0 78	1,089	1 93	8,211	2 07	1,133	2 40	6,637	1 01	2,535	0 61	4,861	1.75	2,809	0 57	4,995	1 41	4,440	1 20
Total Individual Returns (000)																								
Actual																								
1982	14,959		202		382		439		---		407		---		1,114		---		---		---		1,805	
1989	18,113	3 01	333	9 35	390	1 12	519	2 62	3,808	---	535	4 49	3,257	---	1,241	1 62	2,086	---	1,404	---	2,419	---	2,122	2 50
Projected																								
1990	18,576	2 55	303	-9 22	406	4 03	526	1.72	3,985	4 68	570	6 50	3,347	2 76	1,268	2 19	2,161	3 60	1,325	-5 65	2,491	2.97	2,192	3 33
1997	20,487	1 47	329	1 25	426	0 71	613	2 30	4,540	1 99	663	2 33	3,680	1 42	1,341	0 83	2,403	1 60	1,390	0 70	2,736	1 40	2,386	1 13
Form 1040 (000)																								
Actual																								
1982	9,685		133		243		273		---		255		---		718		---		---		---		1,135	
1989	12,242	3 81	306	18 49	279	2 08	347	3 88	2,587	---	342	4 86	2,213	---	846	2 57	1,455	---	924	---	1,563	---	1,380	3 06
Projected																								
1990	12,586	2 82	278	-9 23	288	3 34	356	2 67	2,712	4 81	366	7 05	2,278	2 92	862	4 12	1,496	3 02	910	-1.48	1,599	2 30	1,420	2 90
1997	13,518	1 06	316	1 97	321	1 63	397	1 65	3,022	1 64	424	2 25	2,367	0 56	935	0 85	1,644	1 39	944	0 53	1,673	0 66	1,474	0 55
Form 1040A (000)																								
Actual																								
1982	5,293		68		118		166		---		152		---		396		---		---		---		670	
1989	2,888	-6 49	17	-10 73	54	-7 78	78	-7 62	596	---	86	-6 14	626	---	170	-8 15	284	---	206	---	461	---	311	-7 67
Projected																								
1990	2,992	3 61	14	-17 33	56	4 31	76	-1 70	644	8 03	90	3 88	655	4 58	164	-3 71	299	5 57	181	-12.04	494	7 18	319	2 76
1997	4,127	5 42	7	-6 87	47	-2 48	125	9 19	922	6 17	131	6.48	920	5 78	202	3 38	406	5 06	225	3 45	665	5 53	458	6 21
Form 1040EZ (000)																								
Actual																								
1989	2,984		11		57		95		824		107		418		223		348		274		398		432	
Projected																								
1990	2,997	0 45	11	4 12	61	7 07	96	1 05	830	0 95	114	6 85	415	-0 79	222	-0 67	363	4.44	234	-14.88	398	0 69	454	5 12
1997	2,842	-0.74	8	-6 43	58	-0 68	91	-0 77	596	-0 77	106	-0 87	393	-0 74	204	-1 15	353	-0 42	221	-0 76	378	-0 74	434	-0 63
Corporation Returns (000)																								
Actual																								
1982	435		6		12		18		---		14		---		36		---		---		---		53	
1989	604	5 58	8	5 23	14	2 83	22	3 58	122	---	21	7 47	135	---	45	3 34	54	---	45	---	66	---	72	5 04
Projected																								
1990	620	2 53	10	15 89	15	6 47	23	2 68	124	1 47	23	8 37	137	1 32	47	4 62	54	1 10	48	1 69	67	2 11	74	3.72
1997	789	3 91	16	11 82	18	2 83	27	2 67	157	3 66	33	6 87	170	3 40	60	3 96	68	3 63	57	3 41	83	3 30	98	4 63
Employment Returns (000)																								
Actual																								
1982	4,075		52		114		111		---		100		---		334		---		---		---		511	
1989	4,730	2 30	64	3 11	121	0 80	124	1 60	897	---	123	3 32	918	---	359	1 03	554	---	380	---	615	---	577	1 66
Projected																								
1990	4,788	1.18	65	1 22	122	0 88	125	1 36	915	1 94	125	1 47	927	0 94	361	0 79	558	0 77	384	1.06	623	1 29	582	0 87
1997	5,273	1.45	70	1.21	128	0.76	140	1.70	1,042	1.99	138	1.22	1,041	1 76	383	0 85	596	0 97	426	1.58	690	1 55	622	0 97

Table R9. Tax Return Filings--Actual: 1982, 1989 and Projected: 1990, 1997--IRS Service Centers

	Andover		Brookhaven		Philadelphia		Atlanta		Memphis		Cincinnati		Kansas City		Austin		Ogden		Fresno	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Total Returns (000)																				
Actual																				
1982	14,349		14,965		18,630		14,399		14,917		20,706		20,985		16,132		16,048		20,349	
1989	17,261	2 90	17,424	2 33	20,699	1 59	16,796	4.36	17,453	2 43	22,942	1 54	22,869	1 28	17,892	1 56	22,606	5 84	20,981	0 44
Projected																				
1990	17,463	1 17	17,389	-0 20	21,527	4 00	19,304	2 70	17,743	1 66	23,284	1 49	23,234	1.59	18,242	1 95	23,113	2 24	21,478	2.36
1997	18,293	0 68	18,036	0 53	23,187	1 10	21,537	1.65	18,771	0 83	24,213	0 57	23,881	0 40	19,101	0 87	24,989	1.18	23,619	1.43
Total Individual Returns (000)																				
Actual																				
1982	8,153		7,992		9,840		7,790		8,894		12,278		11,697		8,995		8,714		11,069	
1989	9,527	2 41	8,976	1 76	11,688	2 66	9,949	3 96	10,189	2 05	13,542	1 47	12,761	1 30	9,948	1 51	12,162	5 65	11,406	0 44
Projected																				
1990	9,577	0 52	8,775	-2 25	12,333	5 52	10,252	3 04	10,356	1 64	13,760	1 61	12,991	1 81	10,182	2 35	12,479	2 61	11,878	2 36
1997	9,899	0 48	9,209	0.71	13,264	1 06	11,615	1 90	11,085	1.01	14,332	0.59	13,560	0 63	10,999	1 15	13,525	1.20	12,959	1.57
Form 1040 (000)																				
Actual																				
1982	4,657		5,041		5,772		4,341		4,786		7,443		7,556		6,049		5,878		7,180	
1989	6,273	4 96	6,125	3 07	7,345	3 89	6,080	5 72	6,074	3 85	8,997	2 98	8,603	1 98	6,095	2 96	8,445	6 97	7,633	0 90
Projected																				
1990	6,431	2 52	6,173	0 78	7,709	4 94	6,510	7 06	6,408	5 49	9,296	3 33	8,939	3 90	6,352	4 22	8,662	2 66	7,854	2 89
1997	6,813	0 85	6,572	0 92	8,711	1 66	7,558	2.30	7,026	1 36	10,141	1 30	9,674	1 17	6,826	1 06	9,304	1.06	8,403	1 00
Form 1040A (000)																				
Actual																				
1982	3,796		2,951		4,068		3,449		4,106		4,833		4,141		3,946		3,036		3,869	
1989	1,341	-9 24	1,580	-6 63	1,905	-7 60	1,961	-6 16	2,405	-5 92	2,064	-6 19	1,841	-7 93	2,051	-6 86	1,599	-6 77	1,966	-7 06
Projected																				
1990	1,311	-2 24	1,466	-7 24	2,013	5 67	1,658	-5 26	2,267	-5 73	1,997	-3 25	1,752	-4 85	1,998	-2 60	1,626	1.71	2,050	4.24
1997	1,353	0 47	1,568	0 99	1,981	-0 23	2,268	3.15	2,466	1.25	1,852	-1 04	1,706	-0 37	2,435	3.13	2,140	4 51	2,877	5 76
Form 1040EZ (000)																				
Actual																				
1989	1,913		1,271		2,177		1,908		1,890		2,481		2,317		1,902		2,118		1,807	
Projected																				
1990	1,835	-4 08	1,136	-10.60	2,314	6 27	1,884	-1 26	1,681	-0 52	2,467	-0 56	2,300	-0 70	1,832	1 64	2,191	3 47	1,772	-1 91
1997	1,732	-0 80	1,070	-0 83	2,201	-0 70	1,789	-0 72	1,594	-0 74	2,339	-0 74	2,181	-0 74	1,739	-0 73	2,062	-0 71	1,679	-0.75
Corporation Returns (000)																				
Actual																				
1982	253		391		256		290		238		319		352		265		290		313	
1989	380	7 17	557	8 04	384	7 18	492	9 96	321	4 96	433	5 12	449	3 94	349	4 54	441	7 44	390	3 52
Projected																				
1990	384	1 12	593	6 57	402	4 50	523	6 35	326	1 58	447	3 27	460	2 46	357	2 30	454	2 90	396	1.62
1997	520	5 05	846	6 09	558	5 57	771	6 77	399	3 16	557	3 51	563	3 16	437	3 16	570	3 66	493	3 49
Employment Returns (000)																				
Actual																				
1982	2,036		2,398		2,499		2,277		2,494		2,699		3,036		2,583		2,550		2,963	
1989	2,477	3 08	2,663	1 58	2,889	2 23	2,782	3 04	2,659	0 94	3,170	1 34	3,258	1 05	2,643	0 33	3,367	4 58	2,933	-0 14
Projected																				
1990	2,488	0 49	2,681	-0 10	2,898	0 31	2,779	0 60	2,670	0 43	3,180	0 31	3,263	0 11	2,641	-0 09	3,392	0 73	2,973	1 36
1997	2,819	0 74	2,701	0 22	3,005	0 53	3,078	1.53	2,721	0 27	3,260	0 36	3,333	0 31	2,752	0 60	3,604	0 90	3,339	1.76

Table R10. Federal Tax Deposits and Withholding and Information Documents--Actual: 1982, 1989 and Projected: 1990, 1997--United States and IRS Service Centers

	United States		Andover		Brookhaven		Philadelphia		Atlanta		Memphis		Cincinnati		Kansas City		Austin		Ogden		Fresno	
	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)	Level	Annual Growth Rate (%)
Federal Tax Deposits (000)																						
Actual																						
1982	54,013		4,989		5,734		3,014		5,499		5,399		4,526		6,103		6,624		5,896		6,048	
1989	74,157	6.01	5,005	0.10	6,711	2.43	7,236	12.12	7,706	5.73	6,859	3.86	7,223	8.51	6,051	4.56	7,078	0.53	7,890	4.83	10,398	10.27
Projected																						
1990	75,506	1.82	5,096	1.82	6,833	1.82	7,368	1.82	7,847	1.83	6,983	1.81	7,354	1.81	6,197	1.81	7,207	1.82	6,033	1.81	10,588	1.83
1997	87,892	2.73	5,932	2.73	7,954	2.73	8,576	2.73	9,134	2.73	8,129	2.74	8,561	2.74	6,542	2.73	8,388	2.73	9,351	2.73	12,324	2.73
Grand Total—Withholding and Information Documents (000)																						
Actual																						
1982	610,681		6,324		6,186		5,384		4,526		5,908		5,351		10,601		6,487		6,629		4,534	
1989	1,247,958	14.90	6,119	-0.46	5,924	-0.61	6,425	2.76	6,605	6.56	5,951	0.10	7,040	4.51	9,142	-1.97	6,664	0.30	11,942	11.45	9,100	14.39
Projected																						
1990	1,314,769	5.35	6,276	2.57	6,062	2.33	6,568	2.23	6,760	2.65	6,116	2.61	7,221	2.57	9,392	2.73	6,695	2.67	12,302	3.01	9,380	3.06
1997	1,636,862	4.06	7,446	3.11	7,136	2.95	7,617	2.66	8,121	3.30	7,343	3.34	8,550	3.07	11,191	3.19	10,567	3.13	14,785	3.36	11,233	3.29
Withholding Documents (000)																						
Actual																						
1982	184,311		0		0		0		0		0		0		0		0		0		0	
1989	230,545	3.58	0		0		0		0		0		0		0		0		0		0	
Projected																						
1990	243,562	6.85	0		0		0		0		0		0		0		0		0		0	
1997	275,008	2.15	0		0		0		0		0		0		0		0		0		0	
Information Documents Total (000)																						
Actual																						
1982	426,370		6,324		6,186		5,384		4,526		5,908		5,351		10,601		6,487		6,629		4,534	
1989	1,017,414	19.76	6,119	-0.46	5,924	-0.61	6,425	2.76	6,605	6.56	5,951	0.10	7,040	4.51	9,142	-1.97	6,664	0.30	11,942	11.45	9,100	14.39
Projected																						
1990	1,071,207	5.29	6,276	2.57	6,062	2.33	6,568	2.23	6,760	2.65	6,116	2.61	7,221	2.57	9,392	2.73	6,695	2.67	12,302	3.01	9,380	3.06
1997	1,361,854	4.52	7,446	3.11	7,136	2.95	7,617	2.66	8,121	3.30	7,343	3.34	8,550	3.07	11,191	3.19	10,567	3.13	14,785	3.36	11,233	3.29
Magnetic Tape (000)																						
Actual																						
1982	382,640		0		0		0		0		0		0		0		0		0		0	
1989	940,504	22.76	0		0		0		0		0		0		0		0		0		0	
Projected																						
1990	992,215	5.50	0		0		0		0		0		0		0		0		0		0	
1997	1,267,865	4.63	0		0		0		0		0		0		0		0		0		0	
Paper (000)																						
Actual																						
1982	83,730		6,324		6,186		5,384		4,526		5,908		5,351		10,601		6,487		6,629		4,534	
1989	76,910	2.95	6,119	-0.46	5,924	-0.61	6,425	2.76	6,605	6.56	5,951	0.10	7,040	4.51	9,142	-1.97	6,664	0.30	11,942	11.45	9,100	14.39
Projected																						
1990	78,992	2.71	6,276	2.57	6,062	2.33	6,568	2.23	6,760	2.65	6,116	2.61	7,221	2.57	9,392	2.73	6,695	2.67	12,302	3.01	9,380	3.06
1997	93,989	3.16	7,446	3.11	7,136	2.95	7,617	2.66	8,121	3.30	7,343	3.34	8,550	3.07	11,191	3.19	10,567	3.13	14,785	3.36	11,233	3.29

Tax Return Filings, Information Documents, and Federal Tax Deposits: Tables R1-R10

1. Detail may not add due to rounding.

2. All annual growth rates are computed on a *compound* basis.

3. Growth rates that round to zero are denoted as zero.

4. Federal tax deposits are presented on a fiscal year basis; all other data are presented on a calendar year basis.

5. Form 1040EZ was introduced in filing year 1983. Therefore, no 1982 data or 1982-1989 growth rates for Form 1040EZ appear in the tables. In addition, the introduction of Form 1040EZ has significantly reduced the number of Forms 1040A filed since 1983.

6. Data for IRS regions are presented as though the regional alignment that became effective October 1, 1984 has existed since 1982.

7. Service center data on federal tax deposits are presented in the service center alignment that was in effect at that time.

8. Service center data on tax return filings in Table R9 are presented on the current alignment that became effective in January 1, 1989. However, because of the absence of historical data for the Sacramento District Office created in 1983, the 1982 return volumes for Ogden Service Center in Table R9 are understated, and those of the Fresno Service Center overstated, by the unknown return counts associated with the Sacramento District. This, in turn, effects the associated annual growth rates between 1982 and 1989 shown for the Ogden and Fresno Service Centers in Table R9.

9. Data are not shown for 1982 for those IRS districts which were created or subdivided after 1982 (i.e., Fort Lauderdale and Jacksonville in 1987; and Laguna Niguel, Sacramento, San Jose, Los Angeles, and San Francisco in 1983).

10. District data may not add to regional totals due to the deletion of 1982 data for those IRS districts which have been created or subdivided since 1982.

11. Total returns consist of the following forms:

- **Individual**
  Forms 1040, 1040A, 1040C, 1040EZ (1989, 1990, and 1997 only), 1040NR, 1040PR, and 1040SS

- **Estimated Tax**
  Form 1040ES

- **Fiduciary**
  Form 1041

- **Fiduciary Estimated Tax**
  Form 1041ES (1989, 1990 and 1997 only)

- **Partnership**
  Form 1065

- **Corporation**
  Forms 1120, 1120A (1989, 1990, and 1997 only), 1120F, 1120H, 1120POL, 1120S, and other 1120's

- **Estate**
  Forms 706, 706NA

- **Gift**
  Form 709

- **Employment**
  Forms 940, 940PR, 941, 941E, 941PR, 941SS, 942, 942PR, 943, 943PR, and CT-1. Also projected for 1990 and 1997: Form 940EZ.

- **Form 1042**

- **Exempt Organization**
  Forms 990, 900C, 990PF, 990T, 4720, and 5227. Also projected for 1990 and 1997: Form 990EZ.

- **Employee Plans**
  Forms 5500, 5500C and 5500R. Also filed in 1982: 5500G and 5500K. Also filed in 1989, 1990 and 1997: 5500EZ.

- **Alcohol, Tobacco and Firearms**
  Year 1982 only: Forms 7, 8, 11, 4705, 4706, and 4707, 4708, and 5000.24 (Alcohol and Tobacco Excise).

- **Excise**
  Forms 11C, 720, 730, 2290. Also filed in 1982: Form 4638.

- **Selected Supplemental Documents**
  Forms 1040X, 1041A, 1120X, 2688, 4868, and 7004. Also filed in 1982: Forms 990AR, 7005 and 2438.

- **Non Master File**
  For 1982 only: Forms CT-2, 941M, 990BL, 1120DISC, 1120 FSC, 720M,941NMI, and 1042.

12. Information documents consist of the following: Forms 1099DIV, 1099INT, 1099MISC, 1099OID, 1099PATR, 1099R, and foreign information returns. Also filed in years 1989, 1990 and 1997: Forms 1098, 1099A, 1099B, 1099G, 1099S, 1099SSA/RRB, 5498 and Schedules K-1.

13. All information documents on magnetic tape are processed in Martinsburg Computing Center and, therefore, are shown only under the United States category. Service centers process only paper information documents. The service center data, therefore, do not add to the U.S. data for the total information document category or for the grand total category of withholding and information documents.

14. Withholding documents consist of the following: Forms W2, W2P (1982, 1989, and 1990 only) and W2G.

15. Under the CAWR Act, the Social Security Administration provides the IRS with magnetic tape of the data from withholding documents. IRS processing of these magnetic tapes is performed at the Martinsburg Computing Center and, therefore, withholding documents are shown only for the U.S. (and not for service centers).

Publications Available on Return Projections

Document Number	Title
6149	Number of Returns to be Filed, Districts (Rev. 11-91)
6186	Number of Returns to be Filed, United States, Regions and Service Centers (Rev. 9-91)
6187	Forms 1040, 1040A and 1040EZ by Full-Paid, Other-Than-Full-Paid and Refunds, United States and Service Center Areas (Rev. 5-91) and (Rev. 10-91)
6292	Fiscal Year Projections of Returns to be Filed, United States (Rev. 4-91) and (Rev. 8-91)
6961	Information and Withholding Documents, United States and Service Center Areas (Rev. 4-91)

These publications may be obtained by writing to:

Internal Revenue Service
Research Division
PR:R
1111 Constitution Avenue, N.W.
Washington, D.C. 20224

Attn: Projections & Forecasting Group

*U.S. GOVERNMENT PRINTING OFFICE: 1991--617-015/46930